Academic Engagement Partnership (AEP)
HDTRA1-14-C-0104

Monthly Progress and Financial Report
CDRL A001

Prepared for:

Prepared by:

METABIOTA

Monthly Progress and Financial Report CDRL A001 No. #19
August 01, 2015- August 31, 2015

09/10/15

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This submission of the Monthly Report (Contract Data Requirements List; CDRL A001 encompasses implementation of Academic Engagement Partnership (AEP) program activities in accordance with Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) contract HDTRA1-14-C-0104 for 08/01/2015-08/31/2015.

Technical Directives

AFRICOM

TD 001 Viral Hemorrhagic Fever (VHF) & Personal Protective Equipment (PPE) Donning and Doffing- Cameroon

Objectives
Increase the capacity for Cameroonian responders to mitigate the hazards posed by emerging outbreak and other biosafety threats through biosafety training in the appropriate techniques for donning and doffing personal protective ensembles.

Period of Performance: 05/15/2015 - 12/31/2015
Total Estimated Budget: $125,975.00
Estimated Expenditure: $70,159.00
Technical Direction Status: Approved

Completed Activities

- Continued project coordination activities, including ongoing communications and outreach to the Cameroon Ministry of Defense (MoD);
- Established subcontracting agreements with Mosaic and Global Viral. Initiated independent subcontracts with remaining SME trainers;
- Completed Phase 2 Training Landscape Development, including a comprehensive review of existing VHF and PPE training materials and stakeholder capabilities and needs assessments;
- Conducted a stakeholder coordination meeting with the Cameroon MoD. Training dates were finalized and training material adaptation discussed. The training will take place Nov 17-19, 2015.

Upcoming Activities

- Training materials adaptation will be complete and finalized with the MoD, and the materials will be sent to DTRA CBEP for review, approval, and translation;
- Independent subcontractor agreements will be finalized with the remaining SME trainers.

Challenges
The delay in scheduling a stakeholder meeting with the Cameroon MoD has been difficult, especially with the recent Boko Haram-related violence in the north. Metabiota and the subcontractors will maintain communication with the MoD and other stakeholders, and will obtain the remaining needed information through less formal routes (email/phone). To reduce the risk of participant loss due to such incidents and their related duties, Metabiota will establish and

communicate a minimum threshold number of participants available to attend to ensure suitable attendance.

TD 008 Clinician Training - Uganda

Objectives
Identify gaps in current country-specific training systems and develop clinical training materials to address those gaps and sustainably increase the capacity of medical practitioners at the sub-national level of healthcare systems to identify, diagnose & report disease outbreaks.

Period of Performance: 05/16/2015-08/18/2015
Total Estimated Budget: $1,152,721.00
Estimated Expenditure: $1,045,468.23
Technical Direction Status: Cancelled

Completed Activities
- Submission of TEP for October trainings in Lira Region of Uganda;
- Continuation of bi-weekly calls with DTRA CBEP representation;
- Continuation of extensive communication with subcontractor and in country performer IMAI IMCI Alliance;
- Receipt of TD cancellation notice, and immediate delivery of termination notice to subcontractor IMAI IMCI Alliance;
- Delivery of final invoicing instructions to IMAI IMCI Alliance.

Upcoming Activities
- Receive final invoice and narrative from IMAI IMCI Alliance;
- Deliver final Metabiota invoice and narrative to DTRA.

Challenges
Before receipt of cancellation of this technical direction we were having some difficulties with gaining information on approval status for several of the trainings. Upon cancelation for the TD and delivery of the termination letter to IMAI IMCI Alliance, we asked them to invoice us for all costs incurred. This process has taken longer than expected and we are currently in the process of auditing their invoice to us.

TD 009 NHLS BS&S Training - South Africa

Objectives
Reduce the risk of laboratory exposures of potentially dangerous pathogens through increased BS&S capabilities of South Africa's National Health Laboratory Service (NHLS) to, ultimately, mitigate risk associated with handling potential hazards and protect individuals operating in potentially hazardous environments.

Period of Performance: 05/16/2015- 05/15/2016
Total Estimated Budget: $335,607.00
Estimated Expenditure: $44,374.00

Technical Direction Status: Approved

Completed Activities

- T&M subcontractor agreement with NHLS was finalized to include efforts and associated deliverables for Objectives 2&3;
- Initiated equipment procurement processes;
- Objective 1 BS&S training video scripts were finalized and submitted for review and approval; relevant NHLS approval has been completed.

Upcoming Activities

- Objective 1 BS&S training videography will be completed;
- Objective 3 Fit test Scale-up and Master-level training plan and cohort selections will be completed;
- NHLS monthly reporting and invoicing will be initiated.

Challenges

Metabiota additionally continues to experience challenges with NHLS labor and materials invoicing process, particularly in regards to meeting all FAR regulations and expectations. Metabiota will continue to maintain regular communication with NHLS and provide support where possible to resolve these issues. NHLS corporate structure appears to not provide sufficient delegation of responsibility downward with a bottleneck for approval of basic business processes at high levels in the corporate structure; this has caused delays in project implementation.

TD 010 One Health Epi Training - South Africa

Objectives

Increase the operational biosafety and bio-surveillance capacity through training events and the development of standard operating procedures for emergent disease outbreak response, supporting interagency cooperation and a unified training approach.

Period of Performance: 05/16/2015- 12/31/2015
Total Estimated Budget: $134,551.93
Estimated Expenditure: $25,278.00
Technical Direction Status: Approved

Completed Activities

- Resubmission of budget and technical proposal with updates and revisions respective of DTRA CBEP inquiries;
- Continued bi-weekly communication with DTRA CBEP representation;
- Adaptation of a new communication and coordination plan for implementation upon approval of technical direction.

Upcoming Activities

- Comprehensive review of existing training materials;
- Establishment of bi-weekly calls with in country stakeholders;

- Development of thorough coordination and communication plans;
- Development of materials review report in concert with South African stakeholders.

Challenges
Reportedly, representation from USDA in South Africa is limited in its capacity as a recent personnel departure occurred. This may offer some difficulty in comprehensive communication going forward.

TD 013 One Health Epi Training - Uganda

Objectives
Increase the operational biosafety and bio-surveillance capacity of Ugandan and Nigerian National and Regional Response Teams through training events and the development of standard operating procedures for emergent disease outbreak response, supporting interagency cooperation and a unified training approach.

Period of Performance: 05/16/2015- -2/29/2016
Total Estimated Budget: $381,705.27
Estimated Expenditure: $64,477.00
Technical Direction Status: Approved

Completed Activities
- Resubmission of technical proposal and budget with revisions respective of DTRA CBEP inquiries;
- Submission and receipt of approval for TEP for Module 1 of Cohort 9 to take place October 19th-23rd, 2015;
- Submission and receipt of approval for CCR and TAF forms for travel taking place between October 16th-25th, 2015;
- Submission of CLS forms for Module 1 Cohort 9 trainings;
- Continued communication through bi-weekly calls with DTRA CBEP representation;
- Continued communication through bi-weekly calls with in country stakeholders, CDC Uganda;
- Establishment of final Independent Consultant (IC) trainers list of non Government of Uganda Employees.

Upcoming Activities
- Submission of TEP for Cohort 9 module 2 training;
- Submission of TEP for Cohort 10 module 1 training;
- Development of independent consultant agreements for IC trainers;
- Final selection of training venue in Jinja district.

Challenges
The ambassador's memo, declaring that all Government of Uganda employees are not to be paid honorariums for work outside of their normal duties, continues to provide some level of confusion for our in country partners. Very extensive communication was necessary to ensure that the IC trainers for the project were identified accurately.

TD 014 Grant Writing Mentorship and Workshop - Kenya

Objectives
The objective is to conduct a 6-day workshop and provide continuing mentorship on the skills required to successfully write scientific publications to a cohort of 20 scientists to be selected from the attendees of the Regional Conference on Zoonotic Diseases in Eastern Africa held in Kenya in March 2015.

Period of Performance: 7/21/15- 5/15/16
Total Estimated Budget: $620,692.00
Estimated Expenditure: $10,020.00
Technical Direction Status: Pending

Completed Activities
- Submission of Technical and Cost Proposal to DTRA CBEP in response to Technical Direction;
- Initial outreach to in-country stakeholders.

Upcoming Activities
- Coordination and communication plan development with in-country stakeholders.

Challenges
Metabiota has received no response or inquiries regarding the proposal. Continued delay in approval will affect the ability for deliverables and planning to remain on schedule, scope, and within budget.

CENTCOM

TD 002 Sample Collection and Diagnostics Training on Middle East Respiratory Syndrome (MERS-Coronavirus) in Camels and Bats – Kazakhstan

Objectives
To advance scientific study and experimentation and increase worldwide knowledge of safe sample collection and laboratory diagnostics through detailed training sessions both in labs and in the field. The training will focus on safe sample collection and laboratory diagnostics for Middle East Respiratory Syndrome (MERS-CoV) in camels and bats supporting enhanced biosafety and biosurveillance efforts in the region.

Period of Performance: 06/01/2015- 09/30/2016
Total Estimated Budget: $391,056.00
Estimated Expenditure: $218,940.00
Technical Direction Status: Approved

Completed Activities
- In-country PIs from IMV completed pre-training trip on 2 August in order to secure

regional authorization and participation of up-coming September training event;
- Presented translated Memorandum of Understanding (MoU) to the Institute of Microbiology and Virology (IMV) and incorporated recommended edits into the document;
- Continued communication and collaboration with key CBEP personnel, in-country partners, Duke-NUS Qualified Trainers (QTs) and CLS to finalize logistical requirements of the training event, such as procurement, shipment, venue selection, air and ground transportation, interpretation, translation, printing, etc.;
- Submission of CLS required forms for logistical needs and ongoing monitoring of shipment and procurement;
- Submission of training materials for CBEP/PAO approval to include incorporation of recommendations into materials;
- Decision to postpone training event due to 70-day customs clearance, which would delay the reception of shipped materials needed for a successful implementation of the event. New training dates are TBD; decision pending on availability of CBEP, IMV, Duke, and Metabiota parties. Possible revised training dates available from November 2015 – April 2016;
- Finalizing modified subcontract agreements with partner Duke-NUS and in-country procurement company TMC.

Upcoming Activities
- Both Metabiota and IMV will sign the final MoU;
- Modify subcontract agreements with trainer partner Duke-NUS and in-country procurement company TMC;
- Continue to work with key CBEP personnel, in-country partners, and CLS to monitor shipment through KZ customs clearance, finalize procurement of required materials for the event, and secure all ground transportation, lodging, catering, and other logistical, as appropriate once revised training dates are set;
- Revised training presentations will be forwarded for translation services following PAO approval;
- Finalize timeframe for the second sample and diagnostics training event Confirmation of the new training dates is pending on availability of CBEP, IMV, Duke, and Metabiota parties. Once new training date is confirmed, the TEP, TAF, CCR, and any other necessary forms will be resubmitted for approval;
- A travel logistics request will be submitted to CLS for in-country travel support for IMV POC's to conduct a second pre-training preparations trip, scheduled to be conducted 09/22/2015-10/06/2015. Discussions are underway with CBEP Regional Leadership to address the request for travel within the 45-day authorization period. Metabiota will submit the CLS travel request, if regional leadership requires it within the expedited timeframe. Otherwise, travel will be delayed to support CDRL requirements.

Challenges
Metabiota faced several logistical challenges due to short suspense and turnaround times to complete this project, as well as obstacles regarding unanticipated venue costs and extended customs clearance time frames that have delayed the shipment of necessary materials. These challenges have delayed the submission of the required documents for logistics, travel, material

review, item procurement, shipping, printing, etc. Due to these events, there is a possibility that the materials and supplies needed to implement this event would not pass through customs clearance in time for the training, jeopardizing the successful implementation of the event. Metabiota therefore collaborated with CBEP personnel, in-country partners, and trainers to find alternate solutions to these logistical challenges. Possible solutions investigated included: reaching out to in-country partners to use materials already available at their laboratory facilities; readjusting the training syllabus within current dates; or moving back the event to a later date. It was ultimately decided by all parties that in order to ensure a successful training event that the dates would be postponed. New training dates are yet to be confirmed, and are subject to CBEP, IMV, Duke, and Metabiota availability.

TD003 Bat Borne Virus from Annual Bat Cull India

Objectives

This TD was canceled by CBEP on 08/11/15. Following conversations with CBEP programmatic and contract personnel, it was agreed that Metabiota would not invoice for any costs associated with this TD. Activities during this period concluded upon receiving notice that the TD was canceled, and included notifying partners that the research activity would not move forward, closing out contract requests, and ceased communication regarding implementation or coordination for this project.

TD004 MESA Epigenetics and Genomics of Infectious Disease Workshop

Objectives

Further CBEP Cooperative Biological Research (CBR) objectives through topic focused, poster and training sessions thereby identifying potential partners for future research cooperation, increasing knowledge of specific areas of research educating on best practices in international scientific collaboration.

Period of Performance: 06/01/2015 to 05/15/16
Total Estimated Budget: $488,040.00
Estimated Expenditure: $34,390.00
Technical Direction Status: Approved

Completed Activities

- Prepared and submitted a CCR and travel authorization form for the parties responsible for implementing the workshop event (Metabiota, and Gryphon) to conduct a pre-coordination visit in Amman, Jordan on 10/10-13/2015. Travel documents were approved on 13 August. Possible CBEP attendance is pending, dependent on conflicting engagements;
- Prepared and submitted a revised project proposal with an extended period of performance (POP) until May 2016 and revised budget to account for the extended POP. The purpose of this extension is to guarantee a successful implementation of the project. Extended project proposal has been accepted;
- Prepared modified subcontract with partner Gryphon Scientific to account for extended POP. Completion of modified subcontract is in progress;
- Prepared and submitted a CLS request to support the logistics of an embassy reception/

outreach event to be held in Washington, DC on 09/21/2015. Dates of the event are subject to change to 02/29/2015 based off of Papal visit;
- Ongoing communication and collaboration with CBEP personnel, in-country partner, and US partner;
- The Second Scientific Advisory Board meeting with in-country partners, collaborators, CBEP personnel, and regional scientific team was held on 31 August.

Upcoming Activities
- Metabiota will collaborate with partners Gryphon, RSS, and CBEP to finalize the agenda for pre-coordination visit in Amman, Jordan on 10/10-13/2015.Proposed agenda includes visiting the in-country partner organization and the proposed venue for the event, meeting with in-country stakeholders, and discussing required logistical needs in-person on the ground;
- Work with Gryphon and CLS to finalize logistical preparations for the September embassy reception/ outreach event and make necessary changes to adjust the date of the event due to the Pope's visit;
- The modified subcontract agreement with partner Gryphon Scientific will be signed and implemented with the extended POP.

Challenges
Metabiota presented a revised project proposal with an extended period of performance and revised budget to reflect the additional POP due to logistical challenges that arose because of the short suspense and turnaround times to complete this project. With the previous PoP, the submission of required documents for travel, material review, item procurement, shipping and printing were at risk of not being completed in the required timeframes specified by our current contract's CDRLs. Additionally, the participants would not have adequate time to prepare materials to be presented during the event.

The approval of the extended project proposal, therefore, was greatly appreciated and will facilitate a successful event. A second challenge that was encountered this month arose with the September Embassy Reception, seeing as the papal visit will occur the proposed week of the embassy event and would negatively affect attendance. A revised CLS logistics request will need to be submitted.

EUCOM

TD 011 Ukraine TADR Activity Project 4 (TAP-4)

Objectives
The overarching focus of TAP-4 is to establish and standardize a regional alliance between several CBEP partner countries within Eastern Europe to raise awareness to and provide education on ASF.

Period of Performance: 05/16/2015-01/31/2016
Total Estimated Budget: $131,069.00
Estimated Expenditure: $52,544.00

Technical Direction Status: Approved

Completed Activities

- Ukrainians continued independent outreach activities;
- Planning and draft agenda completed for the final regional workshop in Tbilisi, Georgia 11/03-04/2015;
- Travel authorization was approved;
- CCR data submitted.

Upcoming Activities

- Continued outreach activities of Ukrainian vets;
- Attendance at the final regional workshop in Tbilisi, Georgia 11/03-04/2015.

Challenges

There is an active ASF outbreak in Ukraine and many of the vets that were to be involved in the outreach efforts are dealing with the outbreak. This has slowed the distribution of outreach materials.

TD 012 Ukraine Project 2 (UP-2)

Objectives

The overarching objectives of this project are to develop both explanatory and predictive, spatially-explicit models to explore the geography and ecology of EDPs, specifically Francisella tularensis, the causative agent of tularemia, and Bacillus anthracis, the causative agent of anthrax, across Ukraine at multiple spatial scales.

Period of Performance: 05/16/2015-05/15/2016
Total Estimated Budget: $797,013.15
Estimated Expenditure: $174,863.00
Technical Direction Status: Pending

Completed Activities

- (b)(4); (b)(6) (University of Florida) conducted GIS mapping activities at IVM late July/early August;
- UF IACUC approval documentation submitted to DTRA for routing to USAMRMC ACURO for secondary review;
- Procurements for laboratory supplies at VOLC, IVM, UCDCM initiated;
- BSC re-certification at VOLC, IVM, UCDCM completed;
- Nearing finalized subcontract agreement with KSU.

Upcoming Activities

- Establishment of subcontract with UF;
- Identification of alternative mechanisms to engage Ukrainians on data analysis in lieu of additional sampling trip.

Challenges
IACUC documentation was delivered from UF with a short timeframe for receiving secondary approval from USAMRMC ACURO. As such, secondary approval prevented the planned small mammal sampling to take place in August with KSU and UF. Metabiota will continue to coordinate with all stakeholders to find alternative solutions to alleviate any impacts this cancelation may have on subsequent data analysis. WRAIR failed to file all required travel documentation on time, and thus the September laboratory trip has been cancelled.

TD 016 Georgia GIS Support

Objectives
Provide GIS subject matter expertise to project teams responsible for DTRA CBEP research projects GG-19, GG-20, and GG-27. Subject matter expertise will be responsible for providing mentoring to Georgian scientists both via remote communication and in person.

Period of Performance: 09/01/2015 – 05/15/2016
Total Estimated Budget: $150,000
Estimated Expenditure: N/A
Technical Direction Status: Pending

Completed Activities
- Proposal development complete.

Upcoming Activities
- NSTR

Challenges
Metabiota was unable to make contact with any of the technical POCs listed on the TD.

PACOM

TD 006 Nipah Research Activity Project

Objectives
Original Objectives: Further CBEP Cooperative Biological Research (CBR) objectives through; identification of reservoir and host range for Nipah or related viruses; examination of the seroprevalance of Nipah in bats, peridomestic animals and humans, and understanding the risk factors for cross species transmission in the Philippines. Revised Objectives: Support RITM in developing a grant package that supports the identified Nipah research activity to increase biosurveillance within the region and encourage sustainability and scientific engagement among host country organizations.

Period of Performance: 06/01/2015 – 09/30/2015
Total Estimated Budget: $874,846.00
Estimated Expenditure: $6,914.29
Technical Direction Status: Cancelled

Completed Activities

- Revised technical and cost proposal in response to revised technical directive;
- Coordinated with partners to receive information for revised technical directive in support of project initiation;
- Revised and completed proposed contract packages, to include sole-source justifications, for RITM and Duke NUS in support of this activity;
- Coordinated with CBEP regional and program leadership to discuss and plan for TD in response to revised technical directive;
- Informed partners, and closed out activities in response to cancellation of technical directive;
- Reviewed costs and invoicing in support of the activity to ensure only hours for proposal development were billed to the government. Removed all costs for this activity from invoicing and made administrative revisions accordingly for project cancelation.

Upcoming Activities
N/A

Challenges
N/A

TD 007 Regional Baseline Assessment

Objectives
Characterize the region based on the disease landscape, organic regional capabilities, and external factors that impact CBEP objectives, identify needs and areas of overlap with other stakeholders, and provide overarching strategic guidance & goals to CBEP PACOM Country Managers in the development of country engagement strategies.

Period of Performance: 05/16/2015 – 10/31/2015
Total Estimated Budget: $850,489.00
Estimated Expenditure: $507,348.00
Technical Direction Status: Approved

Completed Activities

- Submitted completed draft analysis on 9/2/2015. Met with regional leadership and A&AS support staff to review the draft and discuss review process for follow on meeting scheduled 9/14/2015;
- Continued ongoing revisions and research after the restructuring of the landscape analysis framework based on a revised and targeted approach;
- Submitted revisions to TD on 07/25/2015. Received approval on 08/04/2015 August;
- Engaged additional SMEs in support of graphic development, pathogen profiles, and stakeholder assessments to continue building out the analysis. Completed a draft of the gap analysis section identifying regional gaps, and developed and began to implement metrics for confidence rating of data;
- Met with Editors to review analysis and identify individuals to support finalization of the report;

- Continued routine communications with project team, CBEP leadership, and SMEs to finalize the analysis;
- Drafted the Executive Summary to ensure that CBEP's critical objectives are addressed to the fullest extent.

Upcoming Activities

- The team will submit electronic copies of all sections of the document to CBEP Regional Leads the week of 09/08/2015;
- The team will meet with CBEP Regional Leads on 09/14/2015 for feedback on the first analysis draft, and discuss the way forward to complete the project;
- Continued QA/QC and information validation process;
- Review and revision of the Gap and Approach Analyses, and finalization of all sections of the document;
- Additional graphics development and review to support the analysis;
- Identify graphic services to print final version of the analysis for submission 10/01/2015.

Challenges

The landscape analysis is a large and critical undertaking that must be completed under a rigorous and accelerated timeframe requiring targeted and informed communication across the program with key CBEP personnel. Metabiota will actively manage communication, especially any external communication related to CBEP engagement countries utilizing a professional and pre-approved approach. This allows for proper sensitization and assurances

TD015 Continued Health Informatics Support in Vietnam

Objectives

Improve Vietnam Ministry of Health systems (processes and software) to support public health disease reporting and response capacity and improve compliance with National and International Health regulations (e.g., IHR 2005).

Period of Performance: 05/16/15 – 06/30/15
Total Estimated Budget: $51,804.80
Estimated Expenditure: $51,804.80
Technical Direction Status: Approved, Closed

Completed Activities

- Prepared and completed budget and budget narrative in response to TD. Received TD approval on 08/19/2015;
- Submitted final project report to both CBEP Regional Leadership and CDC personnel.

Upcoming Activities

N/A

Challenges

N/A

Metrics

Table 1 – Summary of Invoicing

CLIN	Total Awarded	Total Funded	Total Invoiced	Total Remaining
0001	$2,945,896.76	$2,945,896.76	$2,831,903.00	$113,993.76
0002	$392,352.53	$392,352.53	$344,749.81	$47,602.72
0003	$1,283,857.97	$1,283,857.97	$1,139,612.99	$144,244.98
0004	$1,194,823.51	$1,194,823.51	$1,133,368.81	$61,454.70
0005	$371,713.24	$371,713.24	$327,202.84	$44,510.40
0006	$554,060.59	$554,060.59	$498,099.86	$55,960.73
0008	$164,002.13	$164,002.13	$70,877.93	$93,124.20
0009	$137,683.96	$137,683.96	$137,683.96	$0.00
1001	$1,938,246.22	$1,938,246.22	$403,801.00	$1,534,445.22
1002	$7,619,312.70	$2,336,317.98	$903,658.66	$1,432,659.32
1003	$806,459.36	$421,652.00	$20,943.44	$400,708.56
1004	$78,348.00	$78,348.00	$3,222.71	$75,125.29
1005	$2,329,590.00	$250,000.00	$57,420.43	$192,579.57
TOTAL	**$19,816,346.97**	$12,068,954.89	$7,872,545.44	$4,196,409.45

Table 2 – Summary of Implemented Trainings

Training Month	Region	Country	Type	Human, Veterinary, One Health	#Trained	TOT
Apr-14	Africom	Sierra Leone	Clinical	Human	385	Yes
May-14	Pacom	Singapore	Bio-Surveillance	One Health	8	No
Feb-15	Africom	Uganda	Bio-Surveillance	One Health	25	No
Apr-15	Pacom	Australia	Bio-Surveillance	One Health	9	No
Apr-15	Africom	Uganda	Clinical	Human	33	Yes
May-15	Africom	Uganda	Bio-Surveillance	One Health	38	Yes
May -15	Africom	Uganda	Clinical	Human		Yes
June-15	Africom	Uganda	Clinical	Human		Yes
May -15	Centcom	Kazakhstan	Clinical	Human		Yes
Jul-15	No trainings implemented in July.					
Aug-15	No trainings implemented in August					

Table 3- Summary of Contract Modifications

Contract Modifications	Requirement / Description	Date Received	Letter Issued to DTRA
P00001	Respond to the Ebola outbreak in Africa	21-Mar-14	18-Apr-2014
P00002	Removed FTE and geographical restrictions from SOW	27-Mar-14	25-Apr-2014
P00003	Authorized use of existing LOE under CLIN 04 at the discretion of the COR	4-Apr-14	9-May-2014
P00004	Bat-borne pathogen surveillance	6-May-14	5-Jun-2014
P00004	Clinician Training in at least 3 African countries	6-May-14	5-Jun-2014
P00004	BS&S / NHLS Training in South Africa	6-May-14	5-Jun-2014
P00005	Added funding at the SLIN level to requirements listed in P00004	14-May-14	N/A
P00006	SURGE CLIN - Extended POP for EBOV response	12-Jun-14	N/A
P00007	REA Negotiation	25-Jun-14	27-Jun-2014
P00008	Surge POP extension	6-Aug-14	N/A
P00009	REA for Bat-Borne Training and revised Rate Cards	3-Sep-14	N/A
P00010	Ukraine Projects – UP2 & TAP4	17-Sep-14	N/A
P00011	Incorporates FAR clause 52.225-99 initiating use of Synchronized Pre-deployment and Operational tracker for efforts in Africa.	4-Dec-14	N/A
P00012	Authorizes FFP funds for CLIN 0003 and CLIN 1006. Incorporates requirement for DBA insurance.	26-Jan-15	N/A
P00013	Issues change order from FFP LOE to FFP. Requests Proposal extension of base year through April.	2-Feb-15	N/A
P00014	Awards Base Year Extension	10-Apr-15	N/A
P00015	Realigns funding between ACRNS	16-Apr-15	N/A
P00016	Issues two week extension for base year	21-Apr-15	N/A
P00017	Awards T&M Option Year for $12,771,956.28.	15-May-15	N/A
P00018	Provides Incremental funding for Option Year 1	15-May-15	N/A
P00019	Funds REA and changes contract clauses.	3-Sep-15	N/A

Table 4- Summary Committed Funds

CLIN	Total Awarded	Total Funded	Total Committed	Total Remaining
0001	$2,945,896.76	$2,945,896.76	$2,945,896.76	$0.00
0002	$392,352.53	$392,352.53	$392,352.53	$0.00
0003	$1,283,857.97	$1,283,857.97	$1,283,857.97	$0.00
0004	$1,194,823.51	$1,194,823.51	$1,194,823.51	$0.00
0005	$371,713.24	$371,713.24	$371,713.24	$0.00
0006	$554,060.59	$554,060.59	$554,060.59	$0.00
0008	$164,002.13	$164,002.13	$100,581.53	$63,420.60
0009	$137,683.96	$137,683.96	$137,683.96	$0.00
1001	$1,938,246.22	$1,938,246.22	$1,938,246.22	$0.00
1002	$7,619,312.70	$2,336,317.98	$4,897,496.87	$2,561,178.89
1003	$806,459.36	$421,652.00	$472,488.19	$50,836.19
1004	$78,348.00	$78,348.00	$223,189.42	$144,841.42
1005	$2,329,590.00	$250,000.00	$405,114.54	$155,114.54
TOTAL	**$19,816,346.97**	$12,068,954.89	$14,917,505.33	$2,848,550.44

Table 5- 75% Estimate

CLIN	Total Awarded	Total Funded	Total Expended	Estimate 75% Funding Completion Date
1001	$1,938,246.22	$1,938,246.22	$565,321.52	6-Mar-2016
1002	$7,619,312.70	$2,336,317.98	$1,895,064.03	18-Sep-2015
1003	$806,459.36	$421,652.00	$162,991.00	15-May-2016
1004	$78,348.00	$78,348.00	$3,708.00	15-May-2016
1005	$2,329,590.00	$250,000.00	$65,733.56	15-May-2016
TOTAL	**$12,771,956.28**	$5,024,564.20	$2,692,818.11	

OPTION YEAR - SOW Section 4.3, Task 3 Sample Collection and Diagnostics Training on

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: May 29, 2015
PERIOD OF PERFORMANCE: May 16 2015 - September 30, 2015
PROJECT: Bat & Camel MERS Training Course

oaded based on rate card).	LOE Hours	Amount
Program Manager	(b)(4); (b)(6)	
CLIN 1002 - Trainer I		
CLIN 1002 - Trainer II		
CLIN 1002 - Trainer III		
Total Labor Costs (fully loaded):		
OTHER DIRECT COSTS *(fully loaded):*		
CLIN 1003 Materials		$ 194,940.40
CLIN 1004 ODCs		$ 5,484.76
CLIN 1005 Travel		$ 125,405.36
Total Other Direct Costs (fully loaded):		**$325,831**
Total:		**$505,216**

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 29-May-15
Project Bat & Camel MERS Training Course
Period of Performance: May 16 - September 30 2015

CLIN No.	Labor Description	Cost	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager			
CLIN 1002	Trainer I			
CLIN 1002	Trainer II			
CLIN 1002	Trainer III			
PM		(b)(4); (b)(6)		(b)(4); (b)(6)
Trainer I				
Trainer I				
Trainer I				
Trainer I				
Trainer I				
Trainer I				
Trainer II				
Trainer II				
Trainer II				
Trainer III				

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 29-May-15
Project IBat & Camel MERS Training Course
Period of Performance: May 16 - September 30 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1003	Recombivirus Camel Anti-MERS CoV NP antibody ELISA kit	$ 934.00	4	3,736
CLIN 1003	Recombivirus Bat Anti-MERS CoV NP antibody ELISA kit	$ 934.00	4	3,736
CLIN 1003	RNA extraction kit (250)	$ 1,250.00	4	5,000
CLIN 1003	Random hexamers	$ 88.93	20	1,779
CLIN 1003	Superscript II	$ 600.00	10	6,000
CLIN 1003	Microamp 96-well Reaction Plate (Bulk Pack)	$ 312.00	3	936
CLIN 1003	PCR Strip Caps 0.2ml Clear, for Real Time PCR - Flat Top	$ 316.63	1	317
CLIN 1003	96-Well Skirted PCR Plate, Hardshell Low Profile, White Shell, Clear	$ 187.96	1	188
CLIN 1003	Nitrile Groves S	$ 53.00	1	53
CLIN 1003	Nitrile Gloves, M	$ 53.00	1	53
CLIN 1003	Nitrile Gloves, L	$ 53.00	1	53
CLIN 1003	Nitrile Gloves, XL	$ 53.00	1	53
CLIN 1003	MERS primers	$ 350.00	4	1,400
CLIN 1003	MERS probes	$ 350.00	4	1,400
CLIN 1003	Two bank 4.2 m2 harp trap, fully strung	$ 1,395.06	1	1,395
CLIN 1003	Synthetic "troppo" catching bags	$ 95.66	1	96
CLIN 1003	Stringing and spares kit	$ 51.36	1	51
CLIN 1003	Watertight PVC tube	$ 130.37	1	130
CLIN 1003	6 M mist nets	$ 49.82	1	50
CLIN 1003	9 M mist nets	$ 66.13	1	66
CLIN 1003	12 M mist nets	$ 81.66	1	82
CLIN 1003	Ecotone mounting set A	$ 66.42	3	199
CLIN 1003	Mist net poles (set of 2 poles)	$ 224.22	3	673
CLIN 1003	Bag for net poles	$ 70.59	3	212
CLIN 1003	Pocket spring-steel net frame	$ 26.64	2	53
CLIN 1003	Black net bag for E671F	$ 24.16	2	48
CLIN 1003	50cm (20") Fourfold net frame	$ 46.70	2	93
CLIN 1003	Black net bag for 50cm frame	$ 49.26	2	99

CLIN 1003	Telescopic net handle	$	121.72	4	487
CLIN 1003	High mist net pole system kit (excluding poles)	$	99.00	1	99
CLIN 1003	Aluminum telescoping pole	$	120.00	2	240
CLIN 1003	Maple taper	$	6.00	2	12
CLIN 1003	Pole stakes - 3 to 4.5 feet long	$	6.00	1	6
CLIN 1003	M500 USB ultrasonic microphone	$	421.38	1	421
CLIN 1003	BatSound real time spectrogram analysis software, version 4.2, 5 use	$	722.37	1	722
CLIN 1003	EM3+ Echometer	$	1,099.00	1	1,099
CLIN 1003	GPS pug for EM3+	$	149.00	1	149
CLIN 1003	Kaleidoscope Pro software	$	1,499.00	1	1,499
CLIN 1003	SDHC memory cards (16GB)	$	11.95	2	24
CLIN 1003	Spare 4 AA rechargeable batteries (2 sets of 1) + charger	$	67.79	1	68
CLIN 1003	Ecological and Behavioral Methods for the study of bats (2nd edition	$	88.25	10	883
CLIN 1003	Bats of Britain, Europe and Northwest Africa	$	69.00	4	276
CLIN 1003	Black Police tactical duty search gloves 3150 Small	$	23.00	4	92
CLIN 1003	Black Police tactical duty search gloves 3150 Medium	$	25.00	6	150
CLIN 1003	Black Police tactical duty search gloves 3150 Large	$	25.00	6	150
CLIN 1003	Black Police tactical duty search gloves 3150 X Large	$	26.32	4	105
CLIN 1003	Black Diamond Spot Headlamp	$	25.37	15	381
CLIN 1003	AAA Eneloop battery 1800 cycle, Ni-MH pre-charged, 12 pack	$	27.19	1	110
CLIN 1003	Eneloop 4-position charger	$	9.00	4	36
CLIN 1003	Ultrafire Cree 7W 300LM Mini LED One Mode Flashlight	$	1.02	3	12
CLIN 1003	Supernova 300 Lumens Ultra Bright LED Camping and Emergency Lantern	$	26.55	2	53
CLIN 1003	Travelchair Slacker chair	$	18.10	12	221
CLIN 1003	6' Multipurpose Utility Center-Fold Folding Table w/ Carrying Handle	$	57.01	2	114
CLIN 1003	Digital scales - Persola platform	$	120.95	1	121
CLIN 1003	Calipers - Mitutoyo digimatic calipers	$	170.25	1	170
CLIN 1003	Calipers - SPI plastic dial calipers	$	48.25	1	48
CLIN 1003	Persola scales - 100g x 1g	$	47.75	1	48
CLIN 1003	Persola scales 60g x 0.5g	$	47.75	1	48
CLIN 1003	GPS - Garmin 64s with Topo 24k bundle	$	349.99	1	350
CLIN 1003	Cooler box	$	60.16	1	60
CLIN 1003	Cole-Palmer FS-3500 Portable six-place centrifuge	$	375.00	1	375
CLIN 1003	LW Scientific E8 Fixed Portafuge Centrifuge, E8F	$	319.00	1	319
CLIN 1003	Ice packs	$	27.00	4	108
CLIN 1003	Nitril powderfree gloves (small) x 1 case	$	170.69	1	171
CLIN 1003	Nitril powderfree gloves (medium) x 1 case	$	170.69	1	171
CLIN 1003	Nitril powderfree gloves (large) x 1 case	$	170.69	1	171

CLIN 1003	Latex powered gloves (small) x 1 case	$	146.96	1	147
CLIN 1003	Latex powered gloves (medium) x 1 case	$	146.96	1	147
CLIN 1003	Latex powered gloves (large) x 1 case	$	146.96	1	147
CLIN 1003	Eye protection (fog free glasses)	$	9.17	15	138
CLIN 1003	N95 respirators 8110S x 4 cases	$	16.50	4	66
CLIN 1003	N95 respirators 8210 x 4 boxes	$	15.25	4	61
CLIN 1003	N95 respirators 9210 x 4 boxes	$	24.75	4	99
CLIN 1003	Tyvek Suits (Large)	$	5.25	30	158
CLIN 1003	Tyvek Suits (XL)	$	5.25	30	158
CLIN 1003	Tyvek Suits (2XL)	$	5.80	30	174
CLIN 1003	Tyvek® Disposable Nexgen Sleeves x 1 case	$	110.50	1	111
CLIN 1003	First-aid Kit	$	41.23	1	41
CLIN 1003	Carboy with spigot	$	180.09	1	180
CLIN 1003	Dissection (T) pins x 1 box	$	14.95	1	15
CLIN 1003	Dissection pan	$	17.50	1	18
CLIN 1003	Punch needle biopsy (3mm) x 4 boxes	$	63.60	4	254
CLIN 1003	Spray bottle (2 Ethanol and 2 Virkon)	$	3.59	4	14
CLIN 1003	Virkon tablets (200)	$	23.41	4	94
CLIN 1003	Syringes needles (27G) x 10 boxes	$	11.14	10	111
CLIN 1003	Glass slides (white) x 1 case	$	109.70	1	410
CLIN 1003	Homogenizing beads or shards	$	43.00	4	172
CLIN 1003	Anal swabs (dacron tip) - bat x 2 cases	$	405.82	2	812
CLIN 1003	Oral swabs (polyester tip) - bat x 1 case	$	204.00	1	204
CLIN 1003	Anal and oral swabs - camels	$	39.21	4	157
CLIN 1003	Slides box x 24 pack	$	186.23	21	11,670
CLIN 1003	Forceps	$	110.81	3	422
CLIN 1003	Camino Rolling Duffle (field bag)	$	179.95	1	180
CLIN 1003	Nichiryo EX Plus II Single channel, 2-20ul	$	249.00	2	498
CLIN 1003	Nichiryo EX Plus II Single channel, 20-200ul	$	249.00	2	498
CLIN 1003	Pipettes	$	341.37	1	341
CLIN 1003	10ul pipette tips x 20 box	$	120.00	1	420
CLIN 1003	20ul pipette tips x 1 case	$	863.86	1	864
CLIN 1003	200ul pippete tips x 1 case	$	833.02	1	833
CLIN 1003	1000 ul pipette tips x 10 box	$	833.02	1	833
CLIN 1003	Sarstedt Tubes (2ml) x 1 case	$	352.95	1	353
CLIN 1003	Sarstedt tubes (for blood) x 1 case	$	352.95	1	353
CLIN 1003	BD Vacuteiner system with clot activator tubes	$	43.08	2	86
CLIN 1003	BD Vacuteiner needles 21Gx1" (0,8x25mm)	$	313.16	1	313

CLIN 1003	Translation Services (including interpretation for 2 training events	$	12,969.30	1	12,969
CLIN 1003	Shipping and Customs Clearance Fees (12%) for supplies	$	14,775.41	1	14,775
CLIN 1003	Conference Services (2 5 Day training events for 31 participants +	$	27,540.69	1	27,541
CLIN 1003	Fit Test Services	$	127.15	1	127
CLIN 1003	TMC Logistical Support Services for both training events (June-Sept	$	10,452.54	1	10,453
CLIN 1003	Transportation Services during training events	$	7,225.93	1	7,226
CLIN 1003	Participants Stipend for curriculum and research development	$	53,021.55	1	53,022
			Sub-Total		

(b)(4); (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 29-May-15
Project Bat & Camel MERS Training Course
Period of Performance: May 16 - September 30 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1004	DBA Insurance - Duke NUS Trainers (6)	$ 2,378.68	1	2,379

(b)(4) (b)(6)

TRAVEL ESTIMATE COST

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: [illegible]
Proposal: [illegible]
Period of Performance: [illegible]

	International		International		International	Local	Local
Traveler:	[illegible]	Traveler:	[illegible]	Traveler:	[illegible]	Traveler:	[illegible]
Departure Location:	[illegible]	Departure Location:	[illegible]	Departure Location:	[illegible]	Departure Location:	[illegible]
Destination:	[illegible]	Destination:	[illegible]	Destination:	[illegible]	Destination:	[illegible]
Purpose:	[illegible]	Purpose:	[illegible]	Purpose:	[illegible]	Purpose:	[illegible]
Airfare	[illegible]	Airfare	[illegible]	Airfare	[illegible]	Airfare	[illegible]
Lodging	[illegible]	Lodging	[illegible]	Lodging	[illegible]	Lodging	[illegible]
Meals + Incidentals	[illegible]	Meals + Incidentals	[illegible]	Meals + Incidentals	[illegible]	Meals + Incidentals	[illegible]
Meals + Incidentals (Travel and Last Travel Day)	[illegible]	Meals + Incidentals (Travel and Last Travel Day)	[illegible]	Meals + Incidentals (Travel and Last Travel Day)	[illegible]	Meals + Incidentals (Travel and Last Travel Day)	[illegible]
Ground Transport	[illegible]	Ground Transport	[illegible]	Ground Transport	[illegible]	Ground Transport	[illegible]
Incidentals (Travel)	[illegible]	Incidentals (Travel)	[illegible]	Incidentals (Travel)	[illegible]	Incidentals (Travel)	[illegible]
# of Days	[illegible]	# of Days	[illegible]	# of Days	[illegible]	# of Days	[illegible]
Total Per Trip	$6,393	Total Per Trip	$7,306	Total Per Trip	$4,865	Total Per Trip	$2,406
No. of Trips	[illegible]	No. of Trips	[illegible]	No. of Trips	[illegible]	No. of Trips	[illegible]
No. of Persons	[illegible]	No. of Persons	[illegible]	No. of Persons	[illegible]	No. of Persons	[illegible]
SUBTOTAL:	$6,393	SUBTOTAL	$14,612	SUBTOTAL	$43,786.68	SUBTOTAL	$24,080.18
TOTAL TRAVEL BUDGET:	$6,393	TOTAL TRAVEL BUDGET	$14,612	TOTAL TRAVEL BUDGET	$43,787	TOTAL TRAVEL BUDGET	$24,080
					GRAND TOTAL		
					$125,405		

Location	(b)(4)	Total
[illegible]	(b)(6)	[illegible]

OPTION YEAR - SOW Section 4.3, Task 3 Sample Collection and Diagnostics Training on

METABIOTA

CONTRACT NAME: **Academic Engagement Partnership Program**
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: June 3, 2015
PERIOD OF PERFORMANCE: May 16 2015 - September 30, 2015
PROJECT: Bat & Camel MERS Training Course

oaded based on rate card):	**LOE Hours**	**Amount**
Program Manager	(b)(4); (b)(6)	
CLIN 1002 - Trainer I		
CLIN 1002 - Trainer II		
CLIN 1002 - Trainer III		
Total Labor Costs (fully loaded):		
OTHER DIRECT COSTS *(fully loaded):*		
CLIN 1003 Materials		$ 69,578.14
CLIN 1004 ODCs		$ 3,062.10
CLIN 1005 Travel		$ 125,405.36
Total Other Direct Costs (fully loaded):		(b)(4); (b)(6)
Total:		

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 3-Jun-15
Project Bat & Camel MERS Training Course
Period of Performance: May 16 - September 30 2015

CLIN No.	Labor Description	Cost	Total Hours	Total Billable Amount $
CLIN 1002	(b)(4); (b)(6)	$	(b)(4); (b)(6)	
CLIN 1002		$		
CLIN 1002		$		
CLIN 1002		$		

MATERIALS ESTIMATE

Contract Name: Academic Engagement Partnership Program
Contract Number: HDTRA1-14-C-0104
Date Prepared: 3-Jun-15
Project Bat & Camel MERS Training Course
Period of Performance: May 15 - September 30 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1003	Recombivirus Camel Anti-MERS CoV NP antibody ELISA kit	$ 931.00	1	3,736
CLIN 1003	Recombivirus Bat Anti MERS CoV NP antibody ELISA kit	$ 931.00	1	3,736
CLIN 1003	RNA extraction kit (250)	$ 1,250.00	1	5,000
CLIN 1003	Random hexamers	$ 88.93	20	1,779
CLIN 1003	Superscript II	$ 600.00	10	6,000
CLIN 1003	Microamp 96-well Reaction Plate (Bulk Pack)	$ 312.00	3	936
CLIN 1003	PCR Strip Caps 0.2ml Clear, for Real Time PCR - Flat Top	$ 316.63	1	317
CLIN 1003	96-Well Skirted PCR Plate, Hardshell Low Profile, White Shell, Clear	$ 187.96	1	188
CLIN 1003	Nitrile Gloves S	$ 53.00	1	53
CLIN 1003	Nitrile Gloves, M	$ 53.00	1	53
CLIN 1003	Nitrile Gloves, L	$ 53.00	1	53
CLIN 1003	Nitrile Gloves, XL	$ 53.00	1	53
CLIN 1003	MERS primers	$ 350.00	1	1,400
CLIN 1003	MERS probes	$ 350.00	1	1,400
CLIN 1003	Two-bank 1.2 m2 harp trap, fully strung	$ 1,395.06	1	1,395
CLIN 1003	Synthetic "trapper" catch bags	$ 95.66	1	96
CLIN 1003	Strimline end spares kit	$ 51.36	1	51
CLIN 1003	Water tight PAC tube	$ 130.37	1	130
CLIN 1003	6 M mist nets	$ 19.82	1	50
CLIN 1003	9 M mist nets	$ 66.13	1	66
CLIN 1003	12 M mist nets	$ 81.66	1	82
CLIN 1003	Ecotone mounting set A	$ 66.12	3	199
CLIN 1003	Mist net poles (set of 2 poles)	$ 221.22	3	673
CLIN 1003	Bag for net poles	$ 70.59	3	212
CLIN 1003	Pocket spring-steel net frame	$ 26.61	2	53
CLIN 1003	Black net bag for E671F	$ 21.16	2	48
CLIN 1003	50cm (20") Fourfold net frame	$ 46.70	2	93
CLIN 1003	Black net bag for 50cm frame	$ 49.26	2	99
CLIN 1003	Telescopic net handle	$ 121.72	1	487
CLIN 1003	High mist net pole system kit (excluding poles)	$ 99.00	1	99
CLIN 1003	Aluminum telescoping pole	$ 120.00	2	240
CLIN 1003	Maple taper	$ 6.00	2	12
CLIN 1003	Pole stakes - 3 to 4.5 feet long	$ 6.00	1	6
CLIN 1003	M500 USB ultrasonic microphone	$ 121.38	1	421
CLIN 1003	BatSound real-time spectrogram analysis software, version 1.2, a-use	$ 722.37	1	722
CLIN 1003	EM3+ Echometer	$ 1,099.00	1	1,099
CLIN 1003	GPS pug for EM3+	$ 149.00	1	149
CLIN 1003	Kaleidoscope Pro software	$ 1,499.00	1	1,499
CLIN 1003	SDHC memory cards (16GB)	$ 11.95	2	24

48013
7201.95

CLIN 1003	Spare 4 AA rechargeable batteries (2 sets of 4) + charger	$	67.79	1	68
CLIN 1003	Ecological and Behavioral Methods for the study of bats (2nd edition	$	88.25	10	883
CLIN 1003	Bats of Britain, Europe and Northwest Africa	$	69.00	4	276
CLIN 1003	Black Police tactical duty search gloves 3450 Small	$	23.00	4	92
CLIN 1003	Black Police tactical duty search gloves 3450 Medium	$	25.00	6	150
CLIN 1003	Black Police tactical duty search gloves 3450 Large	$	25.00	6	150
CLIN 1003	Black Police tactical duty search gloves 3450 X-Large	$	26.32	1	105
CLIN 1003	Black Diamond Spot Headlamp	$	25.37	15	381
CLIN 1003	AAA Eneloop battery 1800 cycle, Ni-MH pre-charged, 12 pack	$	27.19	1	110
CLIN 1003	Eneloop 4-position charger	$	9.00	1	36
CLIN 1003	UltraFire Cree 7W 300LM Mini LED One Mode Flashlight	$	1.02	3	12
CLIN 1003	Supernova 300 Lumens Ultra Bright LED Camping and Emergency Lantern	$	26.55	2	53
CLIN 1003	Travelchair Slacker chair	$	18.10	12	221
CLIN 1003	6' Multipurpose Utility Center-Fold Folding Table w. Carrying Handle	$	57.01	2	114
CLIN 1003	Digital scales - Persola platform	$	120.95	1	121
CLIN 1003	Calipers - Mitutoyo digimatic calipers	$	170.25	1	170
CLIN 1003	Calipers - SPI plastic dial calipers	$	18.25	1	48
CLIN 1003	Persola scales - 100g x 1g	$	17.75	1	48
CLIN 1003	Persola scales - 60g x 0.5g	$	17.75	1	48
CLIN 1003	GPS - Garmin 61s with topo 24k bundle	$	349.99	1	350
CLIN 1003	Cooler box	$	60.16	1	60
CLIN 1003	Cole-Palmer LS-3000 Portable six-place centrifuge	$	375.99	1	375
CLIN 1003	LW Scientific LS Fixed Portafuge Centrifuge, LST	$	319.00	1	319
CLIN 1003	Ice packs	$	27.00	1	108
CLIN 1003	Nitril powderfree gloves (small) x 1 case	$	170.69	1	171
CLIN 1003	Nitril powderfree gloves (medium) x 1 case	$	170.69	1	171
CLIN 1003	Nitril powderfree gloves (large) x 1 case	$	170.69	1	171
CLIN 1003	Latex powered gloves (small) x 1 case	$	116.96	1	147
CLIN 1003	Latex powered gloves (medium) x 1 case	$	116.96	1	147
CLIN 1003	Latex powered gloves (large) x 1 case	$	116.96	1	147
CLIN 1003	Eye protection (for tree glasses)	$	9.17	15	138
CLIN 1003	N95 respirators 8110S x 1 cases	$	16.50	4	66
CLIN 1003	N95 respirators 8210 x 1 boxes	$	15.25	1	61
CLIN 1003	N95 respirators 9210 x 1 boxes	$	21.75	1	99
CLIN 1003	Tyvek Suits (Large)	$	5.25	30	158
CLIN 1003	Tyvek Suits (XL)	$	5.25	30	158
CLIN 1003	Tyvek Suits (2XL)	$	5.80	30	174
CLIN 1003	Tyvek® Disposable Nexgen Sleeves x 1 case	$	110.50	1	111
CLIN 1003	First aid Kit	$	11.23	1	41
CLIN 1003	Carboy with spigot	$	180.09	1	180
CLIN 1003	Dissection (T) pins x 1 box	$	11.95	1	15
CLIN 1003	Dissection pan	$	17.50	1	18
CLIN 1003	Punch needle biopsy (3mm) x 4 boxes	$	63.60	1	254
CLIN 1003	Spray bottle (2 Ethanol and 2 Virkon)	$	3.59	4	14
CLIN 1003	Virkon tablets (200)	$	23.11	1	94
CLIN 1003	Syringes needles (27G) x 10 boxes	$	11.11	10	111
CLIN 1003	Glass slides (white) x 1 case	$	109.70	1	410
CLIN 1003	Homogenizing beads or shards	$	13.00	4	172
CLIN 1003	Anal swabs (dacron tip) - bat x 2 cases	$	105.82	2	812
CLIN 1003	Oral swabs (polyester tip) - bat x 1 case	$	204.00	1	204

CLIN 1003	Anal and oral swabs - camels	$	39.21	4	157
CLIN 1003	Slides box x 24 pack	$	486.23	1	486
CLIN 1003	Forceps	$	140.81	3	422
CLIN 1003	Camino Rolling Duffle (field bag)	$	179.95	1	180
CLIN 1003	Nichiryo EX Plus II Single channel, 2-20ul	$	249.00	2	498
CLIN 1003	Nichiryo EX Plus II Single channel, 20-200ul	$	249.00	2	498
CLIN 1003	Pipettes	$	341.37	1	341
CLIN 1003	10ul pipette tips x 20 box	$	120.00	1	420
CLIN 1003	20ul pipette tips x 1 case	$	863.86	1	864
CLIN 1003	200ul pippete tips x 1 case	$	833.02	1	833
CLIN 1003	1000 ul pipette tips x 10 box	$	833.02	1	833
CLIN 1003	Sarstedt Tubes (2ml) x 1 case	$	352.95	1	353
CLIN 1003	Sarstedt tubes (for blood) x 1 case	$	352.95	1	353
CLIN 1003	BD Vacuteiner system with clot activator tubes	$	13.08	2	86
CLIN 1003	BD Vacutainer needles 21GxI" (0.8x25mm)	$	313.16	1	313
CLIN 1003	Fit Test Services	$	127.15	1	127
CLIN 1003	OCOMS Procurement Services	$	18,082.31	1	18,082

(b)(4); (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 3-Jun-15
Project Bat & Camel MERS Training Course
Period of Performance: May 16 - September 30 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1004	DBA Insurance Duke NUS Trainers (6)	$ 2,345.00	1	2,345

(b)(4); (b)(6)

TRAVEL ESTIMATE COST

Contract Name: Academic Engagement Partnership Program
Contract Number: HDTRA1-14-C-0104
Date Prepared: [illegible]
Proposal: [illegible]
Period of Performance: Mar 16 – September 30 2016

	International
Traveler: [illegible] Seattle, WA to/from Amsterdam, NL	[illegible]
Purpose:	Year 4 Site Visit & Cam Week Initiative Events
Airfare	$5,552
Lodging	1,119
Meals / Incidentals	660
Mileage, Incidentals (Other than personal conveyance)	119
Ground Transport	$550
Per diem/Local travel	152
Rail Pass	0
other (specify)	$6,393
No. of Trips	1
No. of persons	1
SUBTOTAL:	$6,393
TOTAL TRAVEL BUDGET:	$6,393

	International
Traveler: [illegible] Departure: [illegible] Destination: [illegible]	[illegible]
Purpose:	Year 4 Site Visit & Cam Week Initiative Events
Airfare	$7,200
Lodging	1,100
Meals / Incidentals	660
Mileage, Incidentals (Other than personal conveyance)	0
Ground Transport	1,320
Per diem/Local travel	0
Rail Pass	0
other (specify)	$7,306
No. of Trips	1
No. of persons	1
SUBTOTAL	$14,612
TOTAL TRAVEL BUDGET	$14,612

	International
Traveler: [illegible] Destination: [illegible]	[illegible]
Purpose:	Year 4 Site Visit & Cam Week Initiative Events
Airfare	0
Lodging	2,400
Meals / Incidentals	660
Mileage, Incidentals (Other than personal conveyance)	0
Ground Transport	0
Per diem/Local travel	0
Rail Pass	0
other (specify)	$4,865
No. of Trips	2
No. of persons	2
SUBTOTAL	$42,786.68
TOTAL TRAVEL BUDGET	$43,287

	International
Traveler: [illegible] Departure: [illegible] Destination: [illegible]	[illegible]
Purpose:	Year 4 Site Visit & Cam Week Initiative Events
Airfare	$0
Lodging	2,520
Meals / Incidentals	720
Mileage, Incidentals (Other than personal conveyance)	0
Ground Transport	$672
Per diem/Local travel	0
Rail Pass	0
other (specify)	$2,408
No. of Trips	1
No. of persons	0
SUBTOTAL	$24,080.18
TOTAL TRAVEL BUDGET	$24,080

	Local
Traveler: [illegible] Seattle, WA to/from Amsterdam, NL	[illegible]
Purpose:	Year 4 Site Visit & Cam Week Initiative Events #2
Airfare	$0
Lodging	1,500
Meals / Incidentals	720
Mileage, Incidentals (Other than personal conveyance)	0
Ground Transport	$336
Per diem/Local travel	0
Rail Pass	0
other (specify)	$2,436
No. of Trips	1
No. of persons	1
SUBTOTAL:	$36,533.50
TOTAL TRAVEL BUDGET:	$36,534

GRAND TOTAL
$125,405

Location
Amsterdam, NL

(g)(4), (f)(4), (g)(4)

METABIOTA

Academic Engagement Partnership (AEP)

Project Quad Charts – AUGUST 2016





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EUCOM





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TD016 Georgia GIS Mentorship

Reporting PoP: 01JUL16-31AUG16

Project PoP: 15SEP15-15NOV16

Key Points:

- Metabiota SMEs have ramped up efforts to resume work on GG-19, -20, and -27.
- The GG-19 data set has been transitioned to QGIS, and GoToMeeting calls with the Georgian GIS team on GG-19 have resumed.
- Analytical routines which had been originally built in Excel have been re-implemented in R for sustainability and workflow efficiency.

Schedule Highlights:

Ongoing mentoring	6/1/16	11/15/16
Ongoing research work	6/1/16	11/15/16
Biweekly project update calls	8/1/16	11/15/16
Project Reporting	7/1/16	1/24/17
July Monthly	8/1/16	8/1/16
August Monthly	9/1/16	9/1/16

Project Financials:

CLIN	Total Budgeted	Total Expended	Remaining
1002	$255,696.28	$160,978.16	$94,718.12
1003	$-	$-	$-
1004	$1,754.00	$421.56	$1,332.44
1005	$14,257.00	$21,566.13	-$7,309.13
TOTAL	$271,707.28	$182,965.85	$88,741.43

General Challenges:

- Questions still remain regarding future of GG-27 as sister project AJ TAP-11 is stalled due to BTRIC drawdown in Azerbaijan.

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TD017 Georgia Grantsmanship

Reporting PoP: 01JUL16-31AUG16 Project PoP: 15SEP15-15NOV16

Key Points:

- Mentorship with LMA scientists has resumed.
- Abstract for proposal on anthrax soil decon practices was communicated to DTRA for the pre-coordination process.
- Mentored [redacted] (b)(4); (b)(6) on preparing responses to funding agency questions.
- In-country mentorship has been planned for 2-17 September 2016. Travel documents were submitted and approved.
- Travel logistics were initiated and completed.

Schedule Highlights:

Trip 3	7/18/16	9/23/16
CCR	7/18/16	7/18/16
TAF	7/18/16	7/18/16
Project Reporting	11/2/15	11/15/16
June Monthly	7/1/16	7/1/16
July Monthly	8/1/16	8/1/16
August Monthly	9/1/16	9/1/16

Project Financials:

CLIN	Total Budgeted	Total Expended	Remaining
1002	$234,604.40	$132,329.13	$102,275.27
1003	$1,842.00	$-	$1,842.00
1004	$948.00	$-	$948.00
1005	$33,843.50	$30,511.35	$3,332.15
TOTAL	$271,237.90	$162,840.48	$108,397.42

General Challenges:

- LMA staff availability has been challenging in July and may continue through August due to leave being taken and government mandated proficiency testing.

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TD018 Georgia Genomics Mentorship

Reporting PoP: 01JUL16-31AUG16 Project PoP: 15SEP15-15NOV16

Key Points:

- TD PoP extended to 15 Nov 2016
- Continued genomics and bioinformatics mentorship of Georgian staff.
- Worked with NCDC staff to perform quality assessments on data from the Lugar Center MiSeq machine following the recent servicing.
- Worked on F. tularensis strain comparison project.
- Worked on finalizing draft genome data for anthrax strain comparison.
- Facilitated meeting between LMA leadership and representatives from USAMRIID and WRAIR.
- Assisted LMA with preparations for developing a concept to be submitted to the DTRA BAA on ASFV genomics.

Schedule Highlights:

Task Name	Start	Finish
On-Site Operational Support	12/14/15	11/15/16
Execute Operational Work Plan	1/4/16	11/15/16
Project Reporting	11/1/15	11/15/16
July Weekly Calls	7/1/16	7/31/16
August Weekly Calls	8/1/16	8/30/16

Project Financials:

CLIN	Total Budgeted	Total Expended	Remaining
1002	$464,261.00	$376,178.78	$88,082.22
1003	$4,579.50	$-	$4,579.50
1004	$15,522.67	$4,213.90	$11,308.77
1005	$4,217.00	$-	$4,217.00
TOTAL	$488,580.17	$380,392.68	$108,187.49

General Challenges:

- No significant challenges at this time

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TD019 Georgia Microbiology Mentorship

Reporting PoP: 01JUL16-31AUG16 Project PoP: 15SEP15-15NOV16

Key Points:

- Prepared a draft of TAP-11 final report which was submitted to the CBR project managers.
- Oversaw GG-19 media comparison; all media appears to be equivalent.
- Assisted NCDC epidemiologists and laboratorians with preparing their final proposal versions for the CDC GHSA Operational Research call.
- Assisted an NCDC microbiologist with an application to GRDF for a fellowship to acquire skills in cryptosporidium diagnostics.
- Helped LMA staff to coordinate a visit from a technician from Ellie Labs to work through some issues with their new FPA devices.

Schedule Highlights:

Task Name	Start	Finish
On-Site Operational Support	12/14/15	11/15/16
Execute Operational Work Plan	1/4/16	11/15/16
Project Reporting	11/1/15	11/15/16
July Weekly Calls	7/1/16	7/31/16
August Weekly Calls	8/1/16	8/30/16

Project Financials:

CLIN	Total Budgeted	Total Expended	Remaining
1002	$685,156.71	$489,060.90	$196,095.81
1003	$2,473.85	$-	$2,473.85
1004	$14,179.71	$3,122.82	$11,056.89
1005	$4,217.00	$831.13	$3,385.87
TOTAL	$706,027.27	$493,014.85	$213,012.42

General Challenges:

- (b)(6) (b)(4) notes that it has become increasingly frequent that Lugar Center scientists and others are preparing and submitting abstracts or reports very near or at the deadlines making it difficult to properly assist them or assess their work.

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TD001 PPE / VHF Training Cameroon

Reporting PoP: 01JUL16-31AUG16

Project PoP: 16MAY15-15NOV16

Key Points:

- The Metabiota training team traveled to Yaoundé, Cameroon Aug. 5-13 to conduct the training event.
- Twenty-six participants representing various levels of the Cameroon Ministry of Defense, Department of Military Health attended.
- Participants were highly engaged, ultimately resulting in marked improvement in the theory-based testing and practicums for all project participants.

Schedule Highlights:

Task Name	Start Date	End Date
Phase 4 Training Implementation	05/25/16	09/07/16
TAF Rescheduled 3	07/06/16	08/04/16
VHF PPE Training	08/09/16	08/11/16
Phase 5 Final Project Reports	08/12/16	09/07/16
Training Trip Report, Metabiota	08/12/16	08/16/16
Training Trip Report, Project Team	08/12/16	08/16/16
Final Project Report	08/17/16	09/07/16

Project Financials:

CLIN	Total Budgeted	Total Expended	Remaining
1002	$116,633.64	$88,474.98	$28,158.66
1003	$-	0	$0.00
1004	$1,393.57	0	$1,393.57
1005	$17,863.00	$12,326.76	$5,536.24
TOTAL	$135,890.21	$100,801.74	$35,088.47

General Challenges:

- Logistical issues beyond Metabiota's control, including acquisition and delivery of PPE, participant logistics, and venue logistics, were not finalized until the Metabiota training team was on site.
- Participant lunches and the equipment handover ceremony reception were not paid for by DTRA, which resulted in an approximately $2400 cost directly to Metabiota.

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TD009 BS&S Training RSA

Reporting Pop: 01JUL16-31AUG16 Project PoP: 16MAY15-15NOV16

Key Points:

- OHASIS module development completed; bug fixes from preliminary testing also completed. Deployment underway.
- Procurements of respirators and adaptors for fit-testing is complete; education of NHLS on requirements for invoicing is also complete.
- 4th revision of BS&S videos completed; feedback is being provided for final versions.

Schedule Highlights:

Task Name	Start Date	End Date
Task 3: Monitoring of Equipment Maintenance Enhancement-OHASIS	01/18/16	11/15/16
3.1 OHASIS Module Development	01/18/16	10/31/16
3.2 OHASIS E-Learning Training Development and Conduction	08/09/16	11/07/16
3.3 OHASIS Pilot and Troubleshooting	08/09/16	11/07/16
3.4 Post Action Report	11/08/16	11/15/16
Task 5: Project Reporting and Closeout	07/01/15	11/15/16
5.1 Monthly Progress Reports	07/01/15	11/15/16
5.2 Monthly Invoicing	07/01/15	11/15/16
5.3 NHLS Project Report	11/01/16	11/15/16

Project Financials:

CLIN	Total Budgeted	Total Expended	Remaining
1002	$205,037.00	$180,946.13	$24,090.87
1003	$111,454.09	$128,986.13	-$17,532.04
1004	$4,092.47	$817.20	$3,275.27
1005	$15,024.00	$799.38	$14,224.62
TOTAL	$335,607.56	$311,548.84	$24,058.72

General Challenges:

- Nothing significant to report.

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TD013 OHE Training Uganda

Reporting Pop: 01JUL16-31AUG16 Project PoP: 16MAY15-15NOV16

Key Points:

- Successful implementation of Cohort 11 Module 1 training in Fort Portal Uganda:
  - Training event included One Health sector professionals from Southwestern Uganda.
- All relevant forms have been approved for Module 2 training:
  - Training event will take place in Fort Portal, Uganda during 09.19.16-09.23.16.

Schedule Highlights:

Task Name	Start Date	End Date
Implementation of Cohort 11 Module 1 Training	08/01/16	08/05/16
Development and Submission of Training Reports for Module 1	08/05/16	08/15/16
Implementation of Cohort 11 Module 2 Training	08/01/16	08/05/16
Development and Submission of Training Reports for Module 2	08/05/16	08/15/16

Project Financials:

CLIN	Total Budgeted	Total Expended	Remaining
1002	$279,705.94	$257,511.95	$22,193.99
1003	$12,632.00	$528.62	$12,103.38
1004	$12,146.51	$423.68	$11,722.83
1005	$45,828.00	$46,581.84	-$753.84
TOTAL	$350,312.45	$305,046.09	$45,266.36

General Challenges:

- Overarching USG funding constraints outlined by the US ambassador to Uganda continue to hinder ease of implementation for this training event.

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TD022 BSV & Grantsmanship Uganda

Reporting Pop: 01JUL16-31AUG16 Project PoP: 21MAR16-15NOV16

Key Points:

- Successful implementation of the 2-week Uganda Biosurveillance training between the dates of 08.22.16 and 09.02.16:
  - Total of 16 participants trained in study design, data analysis, ELISA and PCR methods, Sample collection (birds, cattle, small ruminants), sample management, equipment usage, and general biosafety/biosecurity in both field and lab settings.
- Revision to the pilot study implementation plan.
- Delivery of procured materials to Ugandan laboratories.

Schedule Highlights:

Task Name	Start Date	End Date
Submission of finalized SOPS to DTRA ROB	06/07/16	06/07/16
Submission of finalized SOPS to UVRI Primary	06/10/16	06/10/16
Submission of Training Materials for PAO Approval	06/01/16	07/15/16
Implementation of Biosurveillance Pilot Study Training	08/15/16	08/26/16
Implementation of Biosurveillance Pilot Studies for AI, PPRV, and RVF	08/26/16	10/21/16
Development of research proposals purposed for outside funding sources	05/01/16	11/15/16
Submission of final project report	11/15/16	11/15/16

Project Financials:

CLIN	Total Budgeted	Total Expended	Remaining
1002	$111,755.00	$118,918.16	-$7,163.16
1003	$105,270.00	$35,939.81	$69,330.19
1004	$3,680.00	$2,091.84	$1,588.16
1005	$32,931.00	$5,398.72	$27,532.28
TOTAL	$253,636.00	$162,348.53	$91,287.47

General Challenges:

- General difficulties surrounding stakeholder engagement and follow through due to limited time and incentive availabilities:
  - This issue is at times compounded by the constraints outlined by the US Ambassador to Uganda's memo.
- Delays in overall procurement related to backordered items necessary for the later stages of the pilot study.
- Complicated messaging surrounding the provision of incentives to farmers that allow us to sample their animals.

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TD023 OHE Curriculum RSA

Reporting Pop: 01JUL16-31AUG16 Project PoP: 21MAR15-15NOV16

Key Points:

- Received 30% review comments from DTRA CBEP:
  - Comments will be addressed and changes to materials will be submitted at the 60% review meeting
- 60% review meeting is scheduled to take place on September 15, 2016:
  - Materials will be submitted to DTRA CBEP for review by COB September 9, 2016.

Schedule Highlights:

Task Name	Start Date	End Date
Complete of 30% of total revisions	05/01/16	07/01/16
Presentation and review of materials at 30% Completion	07/07/16	07/07/16
Complete of 60% of total revisions	07/07/16	09/15/16
Presentation and review of materials at 60% Completion	09/15/16	09/15/16
Final Submission of revised training materials	09/15/16	11/15/16

Project Financials:

CLIN	Total Budgeted	Total Expended	Remaining
1002	$112,883.00	$66,092.22	$46,790.78
1003	$-	$-	$-
1004	$-	$354.43	-$354.43
1005	$-	$-	$-
TOTAL	$112,883.00	$66,446.65	$46,436.35

General Challenges:

- No challenges to report

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TD025 Grantsmanship Ethiopia

Reporting Pop: 01JUL16-31AUG16 Project PoP: 27APR16-15NOV16

Key Points:

- Successful and well received implementation of the Ethiopia Writing Workshop between the dates of 07.25.16-07.29.16 in Addis Ababa, Ethiopia.
- Development and approval of the thrust area 6 proposal submission schedule.
- Development and informal submission of an abstract by EPHI:
  - White paper currently in development.
- Concept and abstract development by NAHDIC.

Schedule Highlights:

Task Name	Start Date	End Date
Submission of Training Materials for PAO Approval	05/15/16	06/20/16
Implementation of Ethiopia Technical Writing and Grantsmanship Workshop	07/25/16	07/29/16
Submission of Training Survey Results	07/29/16	08/08/16
Supported Submission of White Papers	07/25/16	10/15/16
Supported Development of Full Proposals	07/29/16	11/15/16

Project Financials:

CLIN	Total Budgeted	Total Expended	Remaining
1002	$74,085.24	$53,758.98	$20,326.26
1003	$1,579.05	$1,579.05	$-
1004	$647.16	$521.99	$125.17
1005	$13,639.00	$14,458.00	-$819.00
TOTAL	$89,950.45	$70,318.02	$19,632.43

General Challenges:

- While, the EPHI team has experienced little issue regarding the development and submission of their documents in line with the deliverables schedule, The NAHDIC team is slightly behind citing a lack of time outside their normal working schedules.

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TD021 BSV & Field Epi Training Iraq

Reporting Pop: 01JUL16-31AUG16 Project PoP: 22FEB16-15NOV16

Key Points:

- Secured 18 participants for Cohort I and 20 participants for Cohort II;
- 15 July submitted BS&S training materials; Revisions submitted 19 July;
- 15 July submitted revised TEP with roster and participants;
- Received PAO approval for Topic I-IV epi training materials;
- Held LMS and Zoom webinar trainings; Built out LMS site;
- 19 July received CME credit hours for course;
- Initiated HOT material procurement;
- 3 Aug revised TD approved and gap analysis initiated;
- 8 Aug kicked off Cohort I training course;
- Travel to NBMC & PP presentation approved 21 Aug & 1 Sept.

Schedule Highlights:

Task Name	Start Date	End Date
Secure project approval & engagement of Dr. Faris	02/22/16	08/15/16
Training material development / adaptation / revision (Epi, BS&S, and hands-on course)	05/27/16	09/15/16
Resubmission of updated TEP with participants and revised schedule	06/01/16	07/15/16
Prepare and send Letters of Invitation	06/06/16	07/15/16
LMS training, familiarization, and material upload	06/27/16	08/07/16
Cohort 1 Epi Training Course	08/08/16	09/15/16

Project Financials:

CLIN	Total Budgeted	Total Expended	Remaining
1002	$711,773.00	$493,726.43	$218,046.57
1003	$26,260.00	$3,318.72	$22,941.28
1004	$4,535.00	$1,005.48	$3,529.52
1005	$4,595.00	$-	$4,595.00
TOTAL	$747,163.00	$498,050.63	$249,112.37

General Challenges:

- Aggressive schedule required a heightened LOE through August to ensure completion of gap analysis in time for presentation, and relied on solid engagement of Iraqi stakeholders.
- Revisions to epidemiology training materials has been substantive and required additional efforts to finalize materials prior to delivery.

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TD024 MESA Film Production

Reporting PoP: 01JUL16-31AUG16

Project PoP: 01MAY16-31JUL16

Key Points:

- 01 July submitted film to CBEP for review and PAO approval; 08 July revisions submitted following review and feedback;
- 26 July PAO approval received;
- 26 July held film premiere at Crystal Gateway Marriott attended by CBEP leadership, USG and regional stakeholders;
- 31 July completed closed captioning;
- 05 August transferred DVD to CBEP completing project requirements;
- 23 August CC film posted on DTRA YouTube channel.

Schedule Highlights:

Task Name	Start Date	End Date
Film Submitted to CBEP for Review & PAO approval	07/01/16	07/01/16
PAO Review & Approval	07/01/16	07/26/16
Premiere Coordination	05/26/16	07/26/16
Film Premiere	07/26/16	07/26/16
Closed Captioning	07/26/16	07/31/16
Transfer final materials to CBEP	07/31/16	08/05/16
CC Film Posted on DTRA YouTube Channel	08/05/16	08/23/16

Project Financials:

CLIN	Total Budgeted	Total Expended	Remaining
1002	$37,411.19	$37,411.19	$-
1003	$11,780.42	$11,780.42	$-
1004	$-	$-	$-
1005	$2,685.09	$2,685.09	$-
TOTAL	$51,876.70	$51,876.70	$-

General Challenges:

- PAO approval was received on 26 July, which left 4 days for closed captioning and transfer of materials under PoP. All work was executed by 31 July and final materials transferred by 05 August.

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Metabiota, Inc.
Academic Engagement Partnership

Project: "Incorporating GIS, Remote Sensing, and Laboratory Diagnostics into Human and Veterinary Disease Surveillance for Tularemia and Anthrax in Ukraine"

Attachments: Technical Narrative, Form A – Original UP-2 Work Plan and Form B - Budget

Project Overview

The proposed budget is developed in support of the four specific goals to be completed within the 15 months, with individual tasks and objectives for each of the four goal categories. Of note, Goal 1 of the original UP-2 work plan was completed during the first two years of project implementation.

Goal 2: Active surveillance for tick-borne diseases, specifically tularemia caused by *Francisella tularensis*;
Task 2.1: Survey methods for mammals
Task 2.2: Survey methods for ticks
Task 2.3: PCR and culture diagnostic efforts for *F. tularensis*

Goal 3: Surveillance and environmental sampling for *Bacillus anthracis*
Task 3.1: Investigating recent and ongoing anthrax outbreaks
Task 3.2: Laboratory analyses for *B. anthracis* for UP-2

Goal 4: GIS, remote sensing, and micro/molecular diagnostics (category 3).
Task 4.1: Space-time Analyses for historical and field data
Task 4.2: Ecological Niche Modeling experiments
Task 4.3: Remote Sensing

Direct Labor

For the efficient and effective project implementation it is requested to engage the following experts.

Vendor Service Agreement

CRDF Global is an independent nonprofit organization that promotes international science collaborations and full-service grant administration. Metabiota will engage CRDF Global for disbursement of funds to Ukrainian project recipients as well as grant payments to institutions participating in the UP-2 project. CRDF will provide Metabiota with transparent monitoring and detailed reporting of the grant payments.

Key Personnel

Biologist - (b)(4); (b)(6)

In order to facilitate field collection efforts and conduct epizootological survey, (b)(4); (b)(6) will participate as an independent consultant. (b)(4); (b)(6) is a biologist, ecologist with extensive epizootological, ornithological, theriological, fieldwork, academic, and public administration experiences. He has taken part in a number of international projects focused on plague, tularemia, avian influenza and arbovirology. Importantly (b)(4); (b)(6) was an integral part of the team when conducting field activities during the first two years of the original UP-2 effort under the BTRIC. For 11 years (2003-2014) he was Chief of the Department of Natural foci and Quarantine Infections of the Ukrainian Research Anti-Plague Institute and participated in tularemia projects during 2012-2014.

Institutional Financial Support (IFS)

IFS of the Ukrainian Centers for Disease Control (UCDC) staff

In order to achieve the project's goals (Goals 2, and 4) and corresponding objectives (Tasks 2.1, 2.2, 2.3, 4.1, 4.2, 4.3), it is anticipated that the following UCDC staff will be required to support the project in the estimated amounts set forth below (14 individuals):

- **Project Manager (PM)** (b)(4); (b)(6)

  (b)(4); (b)(6) is the Head of the Laboratory of Especially Dangerous Infections (EDI) at the UCDC. She holds a specialty in "Bacteriology". (b)(4); (b)(6) took part in various international projects and is an author and the co-author of approximately 30 scientific papers and methods. She was involved in the original UP-2 project as the Project Manager from the earliest stages of the Project Development Grant (PDG). In the framework of this project she will carry out the general management of the project (all tularemia related tasks), coordinate work between the Ministry of Health (MOH) Institutions, coordinate the theoretical and practical aspects of the epidemiological surveillance of tularemia; oversee the laboratory analysis for tularemia, data analysis, the development of a GIS database, a literature review, preparation of quarterly progress and technical reports, preparation of project-related information for US Collaborators review, development of abstracts, posters, and presentations on the project. Ukrainian PM will ensure that deliverables and milestones are achieved as outlined in the work plan.

- **Consultant:** (b)(4); (b)(6)

  (b)(4); (b)(6) Chief Doctor, has a Ph.D. in epidemiology and holds a specialty in"Epidemiology". (b)(4); (b)(6) will participate in the project as a consultant. Being a Chief Doctor and Director of UCDC, she provides organizational-methodical management of activities for the State Sanitary Epidemiological Services (SSES) of Ukraine. She is the author and the co-author of approximately 120 scientific articles and instructive-methodological papers. She works on issues pertaining to SSES in the MOH of Ukraine and takes part in the development of legislative documents, as well as, introduces new directions of SSES structure and function. In the framework of the project she will work on theoretical and applied aspects of epidemiology and will

provide administrative support.

- **Consultant:** [redacted] is the Deputy Chief Doctor at UCDC. He holds a specialty in "Epidemiology" and will take part in the project as a Consultant in the field of epidemiology, hygiene of an environment and public health hygiene and will provide administrative support for the organization of the work at UCDC. [redacted] is the author of approximately 40 scientific papers on the surveillance of EDIs. Within the framework of the project he will work on the theoretical and practical aspects of epidemiological surveillance of especially dangerous infections, forecasting of potential outbreaks and prevention measures. Together with [redacted] he will work on the development of recommendations on the improvement of the tularemia survey system in Ukraine and will be responsible for reporting to the MOH on the activities to be conducted within the framework of the project, as well as coordination of US collaborators access to the lab sites.

- **Epidemiologist:** [redacted] is the Head of the EDI Department at the UCDC. He will be responsible for the organization of the tularemia field and clinical study; epidemiological analyses of historical and new collected statistical data on tularemia and anthrax (study of natural foci activity, analysis of morbidity among people), as well as quality control of data, and development of the GIS database.

- **Biosafety Officer (BSO):** [redacted] Chief of Viral Laboratory at UCDC, and holds a specialty in "Virology". She participated in various international projects and is the author of approximately 30 scientific papers. [redacted] is a member of the Regime Commission that provides certification of laboratories at medical and veterinary organizations. She provides organizational and methodical management, analytical and practical activity on issues of laboratory control. Within the framework of this project she will be responsible for bio-risk management of activities conducted within the framework of the project. This work will include review of the project's standard operating procedures (SOPs)/procedures and identification of SOPs that are relevant to the work for which they are developed; ensure SOPs are followed by project participants within the scope of work for which they are responsible; evaluate the risks, determine necessary precautions, identify information gaps related to BS&S, and, based on collected information, complete the risk assessment within the category for which they are responsible; oversee modifications to existing or development of new SOPs and subsequent modification of the Risk Assessment Form throughout project implementation within the scope of work for which they are responsible; formally report modifications to/development of SOPs and modifications of the Risk Assessment Form to PM. BSO will conduct accident and incident investigation(s) as necessary.

- **Bacteriologist:** [redacted] is the Bacteriologist of the EDI Laboratory at UCDC. She was

involved in the project from the PDG stage. Within the framework of this project she will conduct bacteriological analysis of collected samples and be responsible for the observance of BS&S standard at the EDI lab.

- **Bacteriologist** (b)(4); (b)(6) (b)(4); (b)(6) is the Bacteriologist of the EDI Laboratory at UCDC. She will Lead efforts on laboratory testing (PCR) of the collected samples, work with the GIS group on database development (data entry), and will participate in project related events/trainings.

- **Other Personnel:** Additional personnel budgeted (7 individuals) include staff (bacteriologists, specialists, nurses, and laboratory assistants) that will be engaged in various aspects of project activities. They will conduct various tasks.
-

The workload identified for the UCDC staff is based on their previous engagement in the UP-2 Project Development Grant (PDG) and nearly two years of work on the project under the BTRIC. The reimbursement rates are consistent with local norms, prevailing market rates paid under similar projects.

IFS of Volyn Oblast Lab Center (VOLC) staff

In order to achieve the project's Goal 2 and corresponding objectives (Tasks 2.1 and 2.2), it is anticipated that staffing of VOLC (up to 8 individuals) will be needed. The VOLC team will be comprised of the following individuals:

- **Chief Doctor/Director:** (b)(4); (b)(6)
  He will be responsible for the administrative support, organization of work, and access to the site.

- **Head of the EDP Laboratory** (b)(4); (b)(6)
  She will be responsible for the arrangement of work at the laboratory, adjustment of SOPs, sample processing, their preparation for transportation to UCDC for analysis, documentation, BS&S issues, etc.
-
- **Doctor-bacteriologis** (b)(4); (b)(6)
  She will perform work on sample processing and preparation of all necessary paperwork for the delivery of samples to UCDC.
-
- **Biologist** (b)(4); (b)(6)
  He will be responsible for the field collection efforts.

- **Three laboratory assistants** who will work on sample processing.

- **Driver** (b)(4); (b)(6)
- He will provide transportation service for the project and delivery of the collected samples from the field sites to the VOLC on a daily basis during the field trips and their further transportation to the UCDC for the laboratory analysis.

The workload identified for the VOCL staff is based on their previous engagement in UP-2 Project Development Grant (PDG) and nearly two years of work on the project under the BTRIC. The reimbursement rates are consistent with local norms, prevailing market rates paid under similar projects.

IFS of Ukrainian Research Anti-Plague Institute (URAPI) staff

In order to achieve project Goal 2 and corresponding objectives (Tasks 2.1, 2.2), it is anticipated that staffing of URAPI (up to 4 individuals) will be needed. The URAPI team will work on epizootological survey, analysis of the field data, and preparation of project related documentation. The workload identified for the URAPI staff is based on their previous engagement in UP-2 PDG and nearly two years of work on the project under the BTRIC. The reimbursement rates are consistent with local norms, prevailing market rates paid under similar projects.

IFS of the Institute of Veterinary Medicine (IVM) staff

For achieving project Goals 3, and 4, and corresponding objectives (Tasks 3.1, 3.2, 4.1, 4.2, 4.3) assigned to the vet team, it is anticipated that staffing of IVM will include up to 15 people. The IVM team will be comprised of the following participants who will support the project in the estimated amounts set forth below:

- **Participating Institution Manager (PIM** (b)(4); (b)(6) Ph.D., Director. (b)(4); (b)(6) has a Ph.D. in veterinary medicine. (b)(4); (b)(6) has been the IVM Director since 2012 and takes an active part in various EU and USA international programs focusing on upgrading the scientific capabilities of his institute. As the PIM of this project, he will focus on directing the overall operation of the project, overseeing the implementation of project activities, managing the vet team, providing administrative support, monitoring progress towards meeting goals, tasks and deliverables. The PIM will also coordinate work with the State Veterinary and Phytosanitary Service of Ukraine (SVPSU), as well as with other agencies if needed.

- **GIS Group Leader:** (b)(4); (b)(6) (b)(4); (b)(6) is a veterinary doctor and has been actively working with US collaborators on GIS research since 2010. He is the Head of the GIS Sector at IVM. Within the framework of the project he will lead efforts on spatial analysis and modeling for targeted pathogens, as well as assist UCDC on GIS efforts.

- **GIS Specialist** (b)(4); (b)(6) (b)(4); (b)(6) has a Ph.D. in veterinary medicine. She is a Senior Researcher at IVM and will be involved in the project as a member of the GIS team.

- **Group Leader (epizootology)** (b)(4); (b)(6) (b)(4); (b)(6) will be the Group Leader for the epizootological survey of anthrax and investigation of new cases. He will assist with sample collection and, laboratory analysis and will participate in field efforts.

- **Group Leader on PCR:** (b)(4); (b)(6) is a veterinary doctor, an expert in animal viral and bacterial diseases, author of 15 publications, and 1 patent. Currently she is the Head of the Virology Department of the "Research Training Center on Animal Disease Diagnostics" laboratory at IVM. Within the framework of this project (b)(4); (b)(6) will be responsible for testing collected samples by PCR.

- **Group Leader (bacteriology):** (b)(4); (b)(6) has a Ph.D. in veterinary medicine. After graduation from the Ukrainian Agrarian University in 1996 he started his work as a veterinary doctor in the laboratory of Biotechnology of Bacterial Preparations at IVM. Within three years, he became a Senior Researcher and then a Leading Researcher of this laboratory. In 2011, he took a position as the Head of the laboratory of Biotechnology of Bacterial Preparations, and in 2012 became a Head of the sector of Biotechnology of Bacterial Preparations and Control. Currently, (b)(4); (b)(6) s the Head of the Anthrax Laboratory at IVM. Within the framework of this project, he will coordinate activities to be carried out by the IVM staff and be a Group Leader for bacteriological study.

- **Bacteriologist:** (b)(4); (b)(6) is an engineer of the Laboratory of Anthrax at IVM and a postgraduate student in the Institute of Animal Biology of the National Academy of Agrarian Sciences (NAAS) of Ukraine. Her dissertation deals with finding novel compounds, which possess antibacterial activity (b)(4); (b)(6) is an expert in animal bacterial and infectious diseases, author of 4 publications. Within the framework of this project she will participate in the bacteriological efforts.

- **Group Leader (serology** (b)(4); (b)(6) has a Ph.D. in veterinary medicine. He is an author of 35 publications, 7 patents and 4 vaccines, as well as an author of the ELISA test-kits for necrobacillosis and clostridiosis diagnostics. Since 2013 (b)(4); (b)(6) is the Head of the "Research Training Center on Animal Disease Diagnostics" laboratory at IVM. Within the framework of this proje (b)(4); (b)(6) will be responsible for the serology of the boar sera.

- **Group Leader (field efforts)** (b)(4); (b)(6) has a Ph.D. in veterinary medicine. He is an expert in viral diseases of domestic and wild pigs, author of 42 publications, 8 patents and 1 vaccine. During 2004-2010, he worked as a Researcher at the laboratory of epizootology at IVM. In 2011 (b)(4); (b)(6) became the Head of the Laboratory of viral diseases of pigs at IVM. Within the framework of this project (b)(4); (b)(6) will be responsible for field efforts and bio-risk management of activities conducted within the project.

- **Other Personnel:** Additional personnel budgeted (6 individuals) will include staff scientists/researchers, laboratory assistants and technicians that will be engaged in various aspects of the project and will conduct multiple tasks.

The reimbursement rates are consistent with local norms, prevailing market rates paid under similar projects.

Equipment

The IVM has requested an autoclave (Fisher Scientific SterilElite™ Tabletop Autoclave) to improve laboratory safety and waste management processes when performing tasks associated with specific objectives. This autoclave is small an efficient with regards to energy use. It will be used for the sterilization of culture media, special protective clothing and for inactivating the biological materials including materials suspected for anthrax contamination (ground samples).

Additionally, IVM requested equipment and licensed software in order to proceed with GIS and remote sensing efforts. Recently, the GIS sector was established at the institute. The project equipment and software obtained within the project will provide a sustainable GIS and remote sensing research group at IVM that will lead this effort in the National Academy of Agrarian Sciences (NAAS) of Ukraine, as well as will provide an in-country skill set of spatial epidemiology for future research.

The total cost of this equipment is increased by 10% to account for shipment costs and future price increases.

Materials & Supplies

The detailed list of materials and supplies that are needed to carry out proposed research, their quantity, unit cost and corresponding catalog number are indicated in the project budget. The unit cost is estimated on the basis of the price that the manufacture or vendor provided at their websites. If the specific item's price is unavailable in open sources, the cost is budgeted as an average quote from local vendors. The total cost of materials and supplies is increased by 10% to account for shipment cost and future price increases. All materials and supplies are defined by the following categories at the corresponding organization.

Materials & Supplies for Laboratories at UCDC. Within the framework of the project it is expected to obtain up to 3000 samples (both tick pools and rodent's organs) for testing by PCR and bacteriology. Provided costs are required to support research materials, supplies and consumables needed to carry out laboratory analysis at UCDC. Such supplies include, Personal Protection Equipment (PPE) needed to provide biosafety standards (relates to tasks 2.1, 2.2, and 2.3), reagents and supplies for DNA extraction and PCR (relates to task 2.3), reagents and supplies for bacteriological culture (task 2.3), general laboratory and office supplies ((i.e., copier paper, writing tools, binding supplies, copier supplies, postage, toners cartridge, other miscellaneous supplies, etc.) that will be used by staff to carry out daily activities on the project and relates to all tasks.

Materials & Supplies for Laboratory at VOLC. Provided costs are required for research materials, supplies and consumables needed to carry out sample processing at VOLC (Tasks 2.1, 2.2). Such supplies include items like PPE, dissection tools, disinfectants, vials and tubes,

general laboratory supplies that are needed for sample processing, storage, and disposal of used materials.

Materials & Supplies for Tularemia field efforts. Provided costs are required for research materials, supplies and consumables needed to carry out field collection efforts. Such supplies include items for setting up field activity, collecting samples, clean up, and miscellaneous (drinking water, first aid kits, Insect repellent, etc.).

Materials & Supplies for IVM Laboratories. 1000 boar serum and 300 field samples will be provided for testing. Provided costs are required for research materials, supplies and consumables needed to carry out anthrax efforts in the proposed research (tasks 3.1 and 3.2). These supplies will include PPE, needed to provide biosafety standards; sample handling, storage, and dispensing; reagents and supplies for PCR, ELISA, and bacteriology; and other laboratory supplies that that will be used by staff to carry out daily activities.

Materials & Supplies for anthrax field efforts. Provided costs are required for research materials, supplies and consumables needed to carry out the proposed research and include item for safety sample collection, transportation, and storage, as well provide BS&S standards.

Travel

Travel support will be managed by Metabiota where possible, and by CLS if necessary (participants not paid by Metabiota or any other DTRA CBEP mechanism). The following travel is identified as being necessary in support of project implementation.

In-country travel of project participants from Participating Institutions

- One in-country two-week trips (14 days) during summer/autumn 2015 to conduct field collection for anthrax analysis (6 Ukrainians per trip).

Metabiota Travel
It is expected that Metabiota personnel will require the following trips during project implementation:

- 2 one week trips of 2 US citizens to Ukraine
- 1 local trip of US citizens within the US
- 1 one week trip to the US of 3 Ukrainian citizens

Other Direct Costs

This category contains items not included in the previous categories. Description of these items is provided below.

Transportation service: Transportation service for field trips will be managed by Metabiota when possible. The cost of this service is based on the historical pricing (cost provided by B&V under BTRIC in March 2013 field via contract with local transportation company SIXT). It is expected that 3 off-road vehicles will be required for each trip to support tularemia field

efforts (up to 14 Ukrainian and US collaborators and one interpreter) and 2 off-road vehicles for each trip to support anthrax field efforts (up to 6-7 Ukrainians).

Translation service: It is planned that translation service will be provided during the joint meetings with US collaborators. Translation service will be supported by CLS. The cost of this service is based on the historical pricing that B&V used during implementation of the Contract with the Defense Threat Reduction Agency in Ukraine in 2008-2014

Shipment of samples to Georgia for training: About 500 samples are currently stored at UCDC and that should be tested by PCR. The US collaborators will arrange a training session for project participants at the Georgian laboratory and plan to use these samples for training and joint work with Ukrainians. Ukrainian Aviation Service
Center (http://www.dgoods.com.ua/en) estimated the cost of shipment to Georgia is approximately $400. This cost includes box, dry ice (up to 10 kg), broker service and all custom procedures in Ukraine. If needed, it is anticipated that shipping would be facilitated through the CLS contract.

Fees

Overhead to Ukrainian Participating Organizations

Ukrainian Participating Organizations will need institutional cost to provide smooth project implementation on the daily base at their organizations. This cost will include communication cost (Internet, phone, fax, e-mail, etc.), electricity, equipment maintenance and repair and other miscellaneous expenses. This cost is consistent with local norms, and based on the procedures that are followed by similar projects in Ukraine. Fees for Ukrainian organizations have been captured as part of the CRDF vendor service agreement.

CRDF Fee

This cost is required to administer grant payment to Ukrainians and is 12% of total grant payments.

Kansas State University Subcontract

Direct Labor

Labor rates have been designed to capture KSU overhead costs including indirects and fees.

Principal Investigator - (b)(4); (b)(6)

Senior personnel salary is requested for the KSU project Principal Investigator (b)(4); (b)(6) (b)(4); (b)(6) contribution to the project will be; 1) supervision of the completion of the land cover mapping component of the project, 2) lead field excursion to Volyn Oblast, Ukraine to complete validation of land cover mapping component, 3) supervise and contribute to creation of biophysical data layers to support pathogen distribution mapping.

Graduate Studen (b)(4); (b)(6)

Graduate student salary is requested to support one research assistant throughout the project. The research assistant will have a 9-month appointment. Duties of the research assistant will include; 1) assist with production of final product and archiving of land cover maps, 2) acquire remote sensing data and assist (b)(4); (b)(6) in creating biophysical layers, and 3) other tasks as directed by the project PI.

Travel

Travel costs will be handled by Metabiota on a cost-reimbursable basis. At this time, no international travel is expected for (b)(4); (b)(6) Domestic travel to Gainesville, Florida may occur.

Materials

Supplies funds will be used to cover annual license costs for the ENVI and Arc-GIS software packages, both of which will be used extensively in this research. The license fee is determined based on estimates of computing needed using each of the two software packages, as a percentage of the total cost of departmental and university site\seat licenses for each package.

University of Florida-Gainesville Subcontract

Direct Labor

Labor rates have been designed to capture UF overhead costs including indirects and fees.

Co-Principal Investigator - (b)(4); (b)(6)

(b)(4); (b)(6) is leading the spatial epidemiology portion of this project, including the GIS mapping and ecological niche modeling related tasks. He also works closely with the collaborators at WRAIR that are focusing on the biological analysis of small mammal and tick samples for tularemia and boar sera and soil samples for anthrax in order to ensure that the data entered into the spatial epidemiology portion of the project is of the highest quality. He is expected to travel to Kyiv to work closely with collaborators at both UCDCM and IVM.

Co-Principal Investigator - (b)(4); (b)(6)

(b)(4); (b)(6) contribution to the project includes leading small mammal trapping and his involvement in the subsequent data analyses in spatial epidemiology with (b)(4); (b)(6) He interacts closely with (b)(4); (b)(6) from KSU in order to ensure that the biotope mapping in the land use/land cover portion of the project proceeds as projected.

Graduate Student (b)(4); (b)(6)

UF is requesting two graduate students at 25% effort (20 hours per student per pay period) during the 2015-2016 academic year to assist with data analysis, GIS mapping, and

manuscript development related to the UP-2 project. These students will operate under the guidance o[(b)(4); (b)(6)]

Travel

Travel costs will be handled by Metabiota on a cost-reimbursable basis. At this time, we are projecting the possibility of up to two (2) one-week trips by [(b)(4); (b)(6)] nd one graduate student to Kyiv to work with Ukrainian institutions on sample analysis, data analysis, and integration into spatial epidemiology models.

Materials

Supplies funds will be used to cover annual license costs for the ENVI and Arc-GIS software packages, both of which will be used extensively in this research. The license fee is determined based on estimates of computing needed using each of the two software packages, as a percentage of the total cost of departmental and university site\seat licenses for each package.

Academic Engagement Partnership (AEP)

Cooperative Biological Engagement Program (CBEP)

HDTRA1-14-C-0104

Monthly Meeting Report
CDRL A0017

9 June 2016

Prepared for:

Prepared by:

METABIOTA

1.0. Executive Summary and Highlights

This submission of the Defense Threat Reduction Agency (DTRA) monthly meeting agenda covers significant activities through 26 May 2016, for the Academic Engagement Partnership (AEP) Program in accordance with DTRA contract HDTRA1-14-C-0104.

2.0. Key Points

a. The AEP contract has been extended through November 15, 2016 and all ongoing projects have received revised technical directions.
b. PAO/ROB approval is necessary for successful implementation of 3 current Technical Directions.
c. Metabiota has successfully completed two additional projects (TD 004, TD 010 and TD 014) since the previous reporting period.
d. TD 021 is at risk until approval is received from the Iraq Ministry of Health is received.

3.0. Summary of Topics

3.1. Administration

a) Budget Realignment for TDs
   a. Metabiota will provide adjusted project budgets including MOD 24, recently closed project actuals and adjusted budgets for TD 17-19.
   b. DTRA and Metabiota will schedule a separate meeting to review the budget adjustments.

b) Action Items Status Review
   a. All actions from the previous monthly meeting were completed.

3.2. Regional Activities

a) EUCOM

a. TD016 Geographic Information Systems (GIS) (Georgia)
   i. Metabiota performet (b)(4); (b)(6) and (b)(4); (b)(6) completed hands on mentorship on open source software in Tbilisi.
   ii. The project team completed a draft assembly in SaT Scan using data from CG-19.
   iii. Metabiota received Revision A for this Technical Direction and has submitted a proposal to extend the project through the November 15 program end date.

b. TD017 Grants Subject Matter Expertise (SME) (Georgia)
   i. Metabiota subcontractor Avila provided mentorship to LMA in development of White Papers.
   ii. Avila facilitated calls with project stakeholders and and potential collaborators to develop a sustainable plan for submitting the White Papers for funding and implementing research projects.

c. TD018 Onsite Expertise Genomics Research Activities (Georgia)
   i. (b)(4); (b)(6) ontinues to mentor students of NCDC on basics of bioinformatics.
   ii. Farlow is facilitating collaborative work between LMA and NCDC in order to provide LMA access to a next generation sequencer.

d. TD019 Onsite Expertise Microbiology Research Activities (Georgia)

i. Metabiota received a revised Technical Direction and has submitted a proposal to extend the project through the [redacted]ember 15 program end date.
ii. Visiting Scientist (b)(4); (b)(6) is providing mentorship and assistance to NCDC on a proposal developed for submission to the Gates Foundation.
iii. NCDC has expressed a desire for continued mentorship on additional proposals.
iv. Arner provided support to the Principal Investigator of WRAIR to determine how to best utilize samples taking to extract the most effective data.

b) AFRICOM

a. TD001 PPE/VHF Training (C[redacted]roon)

i. (b)(4); (b)(6) is currently still working with the US Embassy to identify new training dates.
ii. DTRA will have representatives in Cameroon in June and will follow up on this item.

b. TD009 NHLS (South Africa)

i. The OHASIS module deliverable is in an intensive development stage.
ii. The videography company selected is providing edits to the rough cuts of the biosafety video deliverable.

c. TD013 One Health Epidemiology (Uganda)

i. Metabiota has begun working with CDC Uganda to finalize the schedule for the OHE Cohort 11 training.

d. TD014 Kenya Writing Workshop (Kenya)

i. Metabiota has submitted the final report for this technical direction.
ii. Metabiota edited 19 of the 20 original manuscripts and 10 were selected for supplemental submission to PLOS ONE.
iii. Metabiota will maintain contact with the participants to determine the results of the submissions.

e. TD022 Biosurveillance and Grantsmanship Training (Uganda)

i. Metabiota is finalizing the SOPs for IACUC and ACURO submission and hopes to receive a wavier for the ACURO approval.
ii. The project team is finalizing the required CLS forms for submission.
iii. Metabiota is finalizing training materials to submit for PAO Approval.

f. TD023 One Health Epidemiology Short Course Curriculum (South Africa)

i. Metabiota is continuing to develop the modules for the short course.
ii. Metabiota has sent the work plan to the in country partners for this effort and awaits feedback.

g. TD025 Technical writing and Grantsmanship Workshop (Ethiopia)

i. Metabiota is finalizing all training materials to submit for PAO approval in early June.
ii. Metabiota has submitted the Training Event Plan and received DTRA approval.

c) CENTCOM

a. TD004 MESA Regional Conference and Workshop (Jordan)

i. This project has completed.
ii. Metabiota submitted the proceedings book and it was distributed to all required parties.

iii. Metabiota will need a budget adjustment to complete the close out of this project.

b. TD021 Field Epidemiology Training Program (Iraq)

i. Metabiota is waiting on final notice of approval for (b)(4); (b)(6) to participate in this program.

ii. Metabiota project team is continuing material development at the intermediate level and will adjust once the project is approved by the Iraq Ministry of Health and participants are identified.

iii. Metabiota identified text books and additional materials for procurement to successfully execute the project.

iv. Metabiota has drafted Transfer of Material and Bill of Material documents for submission.

c. TD024 MESA Short Video (Jordan)

i. Metabiota held a meeting with the stakeholders to develop a draft version of the film narrative.

ii. During the meeting the team highlighted specific clips for inclusion in the final video and developed the intended story line.

iii. Metabiota expects a draft of the video to be completed mid June.

iv. Metabiota and DTRA discussed the need for a modified technical direction to extend the timeline and add funds in order to add closed captioning to the final video.

d) PACOM

a. TD007 Regional Baseline Assessment (South East Asia)

i. Metabiota has completed this project.

b. TD015 Health Information Systems (Vietnam)

i. The edits requested to the final deliverable were submitted.

4.0. Action Items

TD	Action Item	Date Identified	Responsible	Status
TD022	Metabiota to submit SOPs to DTRA for review	05/26/16	(b)(4); (b)(6)	Complete
TD022	Metabiota to submit training materials to DTRA for PAO approval	05/26/16		Ongoing
TD025	Metabiota to submit training materials to DTRA for PAO approval in early June	05/26/16		Ongoing
TD024	DTRA to inform Metabiota if MESA video preview event could be arranged at Crystal City Marriott to lock down dates for LOIs and embassy guest lists and speakers	05/26/16		Ongoing
TD021	Metabiota to send DTRA a draft BOM form and TOM form for materials purchase pre-approval	05/26/16		Ongoing
Admin	Metabiota to provide DTRA with an updated document on CLIN funding adjustment with updated Delta	05/26/16		Complete
Admin	Metabiota to schedule a side meeting with LTC Richardson to discuss	05/26/16		Ongoing

	suggested approach for CLIN funding adjustments			
Admin	Metabiota to send DTRA the April invoice	05/26/16	(b)(4); (b)(6)	Complete
New Business & other items	DTRA to identify date for the next face-to-face meeting	05/26/16		Complete

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July 21, 2015

Metabiota
(b)(4); (b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for the development of a writing workshop to mentor selected participants of the One Health Zoonotic Diseases Workshop held in Kenya on March 2015.

Dea (b)(4); (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to work with Kenyan collaborators to develop a writing workshop as a follow up event to the One Health Zoonotic Diseases in Eastern Africa workshop in Kenya in accordance with SOW section 4.0, Task 5. Metabiota will perform the following activities during the period of performance:

1. Identify organizers of the Regional Conference on Zoonotic Diseases in Eastern Africa and collaborate with them to hold a 6-day writing workshop (not including venue, food, and travel logistics as this will be coordinated via CLS) for 20 participants. Each day will consist of no more than 8 working hours of actual workshop time. Metabiota will work with Kenyan collaborators to identify the participants based on their performance in the CBEP-funded One Health Zoonotic workshop held on 09-12 March 2015.

2. Coordinate with Kenyan collaborators to jointly identify no more than 5 technical writing coaches for the 6-day writing workshop. The writing coaches will provide mentorship to the participants and will help them convert their scientific data into a complete draft manuscript for a research paper to be submitted to a peer-review science journal. One manuscript will be developed per workshop participant. Metabiota will assist in the development of up to 20 papers/manuscripts. The coaches or mentors will be experts in the following subject matter areas: statistics, epidemiology, microbiology, and diagnostics. Where possible, SMEs serving as experts in their field as well as writing coaches is preferred, as are SMEs able to provide mentorship in multiple areas of expertise.

3. Maintain communication with the participants post-workshop for a period of up to 60 days for continued refinement of the manuscripts and preparation for submission. Provide mentorship to participants to engage with an open-source journal (PLoS-NTD or PLoS One preferred) to begin the publication process for manuscripts developed during the workshops. The final task will include providing guidance on submission of the

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Fort Belvoir, VA 22060-6201

manuscripts; i.e. development of supplemental documentation, application, cover letter, other correspondence with editors. Authors will be responsible for actually submitting and paying for submission of their manuscripts to the journal(s) as CBEP has not funded any of the research to be published and will not have reviewed the scope and content to ensure alignment with the biological threat reduction mission.

A proposal and estimated budget for implementing this requirement is requested within two weeks of receipt of this letter. Proposed labor hours should be provided based on clearly defined individuals, quantity of hours per individual per task/subtask (i.e. preparation and coordination for workshop, implementation of workshop, follow up with participants/authors). Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with the DTRA CBEP Points of Contact listed below.

CBEP POCs (b)(6)

(b)(6)

Attachments List: None

Sincerely,

(b)(6)

(b)(6)

878

(b)(6)

Contracting Officer

Cc: (b)(6)

(b)(4)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

August 5, 2015

Metabiota
(b)(4); (b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for Continued Health Informatics support in Vietnam.

Dear (b)(4); (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to complete deployment activities of a health informatics subject matter expert (SME) in Hanoi, Vietnam through May 2015, in accordance with SOW section 4.3, Task 2. Metabiota was previously issued a Technical Direction Memo to proceed with the fulfillment of a Global Health Security Information Systems and Surveillance contract position to be stationed in Vietnam; authorizing disclosure of position requirements and soliciting candidates for the position. In support of this effort, the SME assessed, designed and implemented activities to assist the Vietnam Ministry of Health, including the General Department of Preventive Medicine, four regional institutes, provincial and district laboratories and others involved in disease surveillance, report and response.

The deliverable of a final report prepared by the SME will be provided to the CBEP POCs identified below upon completion of contract.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with the DTRA CBEP Points of Contact listed below.

CBEP POCs: CBEP Vietnam Country Manage (b)(6)
(b)(6)
PACOM Science Manage (b)(6)

Attachments List: None

Sincerely,

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

8/5/2015

X (b)(6)

(b)(6)

COR/J3CTA Deputy Chief Scientist

Signed by (b)(6)

Cc: (b)(6)

(b)(6)

Appendix A Supplemental Information

1 Human Resources Management

The Metabiota PM and PC will work closely with Metabiota's scientific bench and regional networks to identify and integrate appropriate internal SMEs to this project in order to further build out the project team. The PM will oversee and coordinate their efforts on the project in support of: adapting existing materials available and, if found necessary, developing any new training materials; mentoring participants through grantsmanship processes, including the development of SOPs; execution of pilot BSV efforts; and providing monitoring and evaluation techniques to ensure information learned is retained and applied at home organizations. The PM will ensure that SMEs are coordinating directly with project team members and performing required duties, and will track overall LOE according to budget and project requirements for all team personnel.

2 Communications Management

2.1.1 Customers Management

The Metabiota PM will lead communication efforts with DTRA CBEP for this activity, guaranteeing that all aspects of the project are being managed in direct coordination and communication with key team members and to ensure an understanding of project requirements and identify project risk at the forefront in order to implement mitigation strategies throughout the project lifecycle thereby ensuring overall success. In doing so, the Metabiota PM and PC will establish bi-weekly project calls or in-person meetings with the DTRA CBEP POCs and technical support as identified. The Metabiota PM will also maintain communication with CBEP regional leadership via email to ensure they have full visibility on the status and process of project execution. Metabiota will be available and respond promptly to any questions or concerns arising during planning and implementation of the project.

2.1.2 Stakeholder Management

Through close coordination with DTRA CBEP, the Metabiota PM and PC will identify key stakeholders, subcontractors, in-country FLNs, SMEs, and others identified as critical to support this training during key phases identified in the project proposal to support routine communication on the project critical to successful execution of the project, with whom the Project team will establish bi-weekly project calls. The Metabiota PC will regularly communicate the project status with the PM. The PC will manage the SMEs and FLNs and lead coordination with the Ugandan Stakeholders, to include leading regular coordination calls with the project team and assist in participant coordination.

Metabiota will maintain timely communication with other performing contractors should the need arise. Metabiota project personnel will be proactive in their communications to these contractors to coordinate necessary activities and will respond promptly to any questions or concerns.

3 Risk Management

Level of Effort allocated to Metabiota management and coordination staff unknown	During project phases 1 and 2, Metabiota is tasked to coordinate with 8 different research collaborators in the respective development of a work plan and a final research proposal. They are additionally tasked to coordinate with these same 8 research collaborators and as many as 20* independent consultants throughout phase 3. The management of this workload with the proposed LOE could lead to budget overrun, schedule overrun, and or reduced quality of deliverables	4	4	**Med-High**	Upon approval of this TD, and upon receipt of research concept notes mentioned in box 8, Metabiota program management and coordination staff will endeavor to gain a comprehensive understanding of all research concepts. Metabiota will coordinate with DTRA CBEP representation to understand stakeholder motivation and gain historical context of this project. Metabiota will additionally streamline any and all independent consulting onboarding processes as they pertain to this effort.	**Med**
Misalignment of FLN rates	Rates established for Metabiota-engaged Ugandan FLNs may not be appropriate for the education and experience of those to be engaged. This may result in difficulty obtaining buy in from Ugandan FLNs	2	4	Med	Metabiota will make every effort to manage costs associated with supporting FLNs as trainers, study leads, and study technicians	**Low-Medium**
Feasibility of Laboratory Component	Obtaining roughly 3000 samples for the pilot studies for AI, RVF, and PPRV after choosing sites relevant for all three diseases being studied may not be feasible by November 2016.	5	5	(b)(4); (b)(6)	Combine samples for multiple uses to save on preparation time, for example, using same ruminant samples for both RVF and PPRV, or consider reducing the pilot study sample size	(b)(4); (b)(6)
Ethical Approvals	Metabiota recognizes that DTRA ROB approvals are outside of our control, however, without which implementation of pilot studies will be delayed	5	5		The Metabiota Project Team will conduct regular communication with DTRA CBEP POCs on this topic and will provide back stop support for documentation if necessary	
	Schedule / Performance / Quality					
Outstanding need for Proposal Development and supplemental materials support	Metabiota has not yet seen the concept notes in support of this technical direction. As such the level of concept and proposal and supplemental materials development that may be necessary could exceed that allocated to our SMEs. This issue could lead to schedule delay and may affect the overall quality of the final research proposal	3	3	Med	Upon approval of this TD, and upon receipt of research concept notes mentioned in box 8, Metabiota program management and in country stakeholders will endeavor to gain a comprehensive understanding of all research concepts as well as learn where each proposals stands in terms of development. Metabiota will then take effort as needed to manage the LOE of its SMEs to ensure the development of a high quality product	**Low-Medium**
Potential need to develop all training material in support of Phase 3 Part 2	Metabiota has not yet seen the concept notes in support of this technical direction. As such the existence and completeness of training material remains unknown. The extent to which training materials must be developed may exceed the LOE allocated to our SMEs. This issue could lead to schedule delay and may affect the overall quality of the final research proposal	4	4	(b)(4); (b)(6)	Upon approval of this TD, and upon receipt of research concept notes mentioned in box 8, Metabiota program management and in country stakeholders will endeavor to gain a comprehensive understanding of the availability of existing training materials. Metabiota will then take effort as needed to manage the LOE of its SMEs to ensure the development of a high quality product.	**Med-High**
PAO approval and BS&S review of SOPs and training materials	PAO approval requires a 60-day time frame from receipt of training materials. Depending on the level of development of SOPs, this could result in schedule delays.	2	3	Med	Metabiota will coordinate with DTRA CBEP to understand the needs and ensure materials and SOPs are finalized and if necessary are submitted to PAO at least 60 days prior to training initiation.	**Low-Medium**
Potential difficulty in engaging research collaborators comprehensively.	This technical direction tasks Metabiota to engage 8 different research collaborators who are based in Uganda. Metabiota has not yet had an opportunity to understand stakeholder motivation and historical involvement in this project.	3	4	**Med-High**	Upon approval of this TD, and upon receipt of research concept notes mentioned in box 8, Metabiota program management will initiate communications with research collaborators and endeavor to gain an understanding of existing relationships and motivations.	**Low-Medium**
	Performance / Operations					

Project participants are government employees	Relevant expertise in the region is limited and largely concentrated in ministry institutions. Government employees are ineligible to receive per diem based on the Ambassador's memo.	4	3	**Med-High**	Metabiota will work with regional partners and DTRA CBEP to ensure that the identified participants are compensated in accordance with the Ambassador's guidelines. If necessary, Metabiota will communicate with identified participants regarding compensation.	**Med**
Location and venue for in country activities unclear	The location and venue for phase 3, parts 2 and 3 is not specified. As such, the logistic requirements including those relevant for the CLS contract for this phase are not well defined.	3	4	Med	Upon approval of this TD, and upon receipt of research concept notes mentioned in box 8, Metabiota program management and coordination staff will determine if a venue for this phase has already been selected and will proceed through the CLS mechanism accordingly.	**Low-Medium**

4 Schedule Management

Task Name	Start Date	End Date	Duration
Phase 0 - Proposal Development	**06/07/16**	**06/09/16**	3d
0.1 Proposal Development	06/07/16	06/09/16	3d
0.2 Proposal Submission	06/09/16	06/09/16	1d
Phase 1 - Work Plan Development	**03/21/16**	**04/22/16**	**25d**
1.1 Stakeholder Identification and Initiation	03/21/16	03/25/16	1w
1.1 Concept Note SME Review	03/28/16	04/01/16	1w
1.2 Ugandan Stakeholder-SME Coordination	04/04/16	04/22/16	3w
1.3 Work Plan Development (3)	04/04/16	04/22/16	3w
1.4 Work Plan Submission	04/22/16	04/22/16	1d
Phase 2 - Research Plan and Proposal Development	**04/25/16**	**06/24/16**	**45d**
2.0 Work Plan Execution	04/25/16	06/24/16	45d
2.1 Research Plan & SOP Development	04/25/16	06/03/16	6w
2.2 Research Proposal Development	06/06/16	06/24/16	3w
2.3 Project Proposal Submission	06/24/16	06/24/16	1d
Phase 3 - SOP Training and Pilot Studies	**03/28/16**	**11/09/16**	**163d**
3.1 Phase 3 Part 1 SOP Training Preparation	03/28/16	08/11/16	99d
3.1.1 Training Travel Prep: TEP (CDRL 0014)	06/13/16	08/11/16	44d
3.1.2 Training Travel Prep: CCR	06/27/16	08/10/16	33d
3.1.3 Training Travel Prep: TAF	06/27/16	08/10/16	33d
3.1.4 Training Prep: CLS (CDRL 0016)	06/27/16	08/10/16	33d
3.1.5 Training Prep: Participant Coordination	06/27/16	08/05/16	6w
3.1.6 Training Prep: Training Materials	03/28/16	06/03/16	50d
3.1.6 a Training Materials Development	03/28/16	06/03/16	10w
3.1.7 Pilot Study Materials Procurement	06/06/16	08/03/16	43d
3.1.6 b PAO and BS&S approval and review	06/06/16	08/03/16	43d
3.2 Phase 3 Part 2 In-country Pilot Study Training	08/04/16	08/24/16	15d
3.2.1 Conduct Training on SOPs, overarching skills, knowledge and guidance	08/04/16	08/17/16	10d
3.2.4 Post- Travel Deliverables: TTR (CDRL A006)	08/18/16	08/24/16	5d
3.3 Phase 3 Part 3 Pilot Studies	08/18/16	10/26/16	50d
3.3.1 Study 1 (RVF) Pilot	08/18/16	10/26/16	50d
3.3.1 a Study 1 Implementation	08/18/16	10/12/16	8w
3.3.1 b Study 1 Reporting	10/13/16	10/26/16	2w
3.3.2 Study 2 (AIV) Pilot	08/18/16	10/26/16	50d
3.3.2 a Study 2 Implementation	08/18/16	10/12/16	8w
3.3.2 b Study 2 Reporting	10/13/16	10/26/16	2w
3.3.3 Study 3 (PPRV) Pilot	08/18/16	10/26/16	50d
3.3.3 a Study 3 Implementation	08/18/16	10/12/16	8w
3.3.3 b Study 3 Reporting	10/13/16	10/26/16	2w
3.3.4 Final Project Reporting	10/27/16	11/09/16	2w

5 Cost Management

5.1.1 Cost Management

The Metabiota PM and PC will ensure time and cost management through the routine receipt and analysis of project reports, invoices, and other needs to support project efforts while ensuring accurate and responsive financial reporting and facilitation of cost savings to the government wherever possible. The PM and PC will also ensure that all project deliverables are submitted on time and to the quality required for this engagement. This will include coordination, development and submission of the following contract CDRLs associated with this project: CDRL A001 Monthly Report, A006 Training Trip Report, A011 Transfer of Materials (if warranted), A014 Training Event Plan, A015 Post Training Assessment, and A016 CTR logistics form. All CDRLs will be developed and submitted according to the contract requirements, and associated timelines.

5.1.2 Logistics Management

The need for CLS on this effort is currently unclear. As part of the project objectives, a two-week training event will take place in-country. However, at this time the location of where the training(s) will occur, if a training venue is required, and if in-country participants would require logistics support is not well defined. Metabiota is operating under the assumption that all FLN's will be contracted to Metabiota and, as a result, any necessary travel would be supported by Metabiota. If found necessary in the initial project coordination discussions with DTRA CBEP and the Ugandan POC's, the Metabiota PM and PC will coordinate with CLS for all travel, logistics, translation, and training requirements in country. Utilizing CDRL A016 the CTR logistics form, the PM will submit all requirements directly to CBEP and, once approved and joint (CLS-Metabiota) communication established by DTRA CBEP, the PC will coordinate directly with CLS team members to ensure all shipping and logistics requirements are met according to the timeline, project scope, and requirements. The PC will work jointly with CLS personnel to develop and submit required BOMs, and move supplies through the customs clearance process in conjunction with the DTRO.

5.1.3 Procurement Management

Metabiota will follow U.S. government procurement regulations and best practices to ensure the best value is obtained under the time constraints using all means available. In doing so, Metabiota will implement its pre-established procurement protocol for commodities, services, consultants, and subcontracts. This protocol includes a formal Request for Quote/Request for Information (RFQ/RFI) process followed by a bid analysis, which analyzes cost, suitability, and feasibility to determine best value followed by vendor selection. In situations requiring sole sourcing due to contingent factors, such as timeline, rare expertise, and compatibility, Metabiota will follow the pre-established protocol for sole-sourcing.

6 Quality Management

The Metabiota Project team will work closely with Metabiota SMEs to ensure all training materials and deliverables submitted and used on the project meet DTRA CBEP's requirements and standards and ensure a high quality is maintained. To do so, the project team will perform routine risk assessments to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms. Through this mechanism, the SMEs will be specifically responsible for QA/QC of training materials and for coordinating with engaged Ugandan stakeholders (e.g., POC's and FLNs) to ensure grant proposals and trainings are executed based on international standards and best practices.

Routine oversight and coordination will be performed to ensure all relevant parties are performing in-country logistical requirements to ensure successful execution of the project. Monitoring will include both administrative and fiscal oversight. Routine communications will be maintained with CBEP regional leadership to ensure the project remains on track and is implemented according to standard.

Furthermore, to enhance long-lasting sustainability in the development of local capacities, Metabiota will leverage existing local or regional partnerships when possible. Through this method, Metabiota will provide subject matter expert guidance, benchmark project development, and will qualitatively and quantitatively measure participant capacity development and improvement while additionally improving local and regional capacity and leadership. Metabiota has used such a model to successfully build and enhance human capacity with local organizations in Africa, South East Asia and Eastern Europe. We use an adaptive implementation style to assess individual's progress, and we set capacity-building and implementation milestone priorities on a regular basis so that the most up-to-date information can be used in response to key project opportunities and challenges. Instruction and training activities will be individually tailored to participant needs, individual competencies, and operating environment.

7 Technical Resource Management

7.1 (b)(4); (b)(6)
(please see qualifications below)

7.2 (b)(4); (b)(6)
(please see qualifications below)

(b)(4); (b)(6)

Virologist and Head, One Health Program
Chief Research Officer
Kenya Medical Research Institute
Nairobi, Kenya
Pho(b)(4); (b)(6)
E-m

Research Professor,
Paul G. Allen School for Global Animal Health
101 Allen Center,
Washington State University,
Pullman, WA 99164-7090 USA
Phon(b)(4); (b)(6)
Emai

CURRICULUM VITAE

TRAINING

1990-94 Doctor of Philosophy, **The Pennsylvania State University**, State College, Pennsylvania

1994-99 Postdoctoral Fellowship, **Mayo Clinic and Foundation**, Rochester, Minnesota
July, 2012 – Training on **Good Clinical Laboratory Practices**. Conducted by Family Health International

PROFESSIONAL EXPERIENCE

November 2010 – Present: Head, Integrated Human-Animal Health (One Health) Program, Global Disease Detection program, Centers for Disease Control and Prevention, Kenya.

Major achievements:

(i) Establishment of the Zoonosis Disease Unit (ZDU) in Kenya. Worked with US/DOD's Disease Threat reduction Agency (DTRA) and US/DOS' Biosecurity Engagement Program (BEP) to secure funding for construction of ZDU Offices that were completed on August 2012, hiring of office administrator and data manager and funding field activities for the Unit for 3 years. The Kenya ZDU is serving as a model for other countries in the region.

(ii) Working with Government of Kenya to complete a 5-year (2012-2017) strategic plan for the implementation of One Health in Kenya.

(iii) Sourced funding to support training of veterinarians in the Field Epidemiology and Laboratory Training Program (FELTP). Also worked with the Program's resident adviser to revise the curriculum to incorporate One Health competencies.

November 2004 – 2010: **Laboratory Director**, Global Disease Detection/International Emerging infections Program-Kenya, Centers for Disease Control and Prevention.

Responsibilities:

(i) **Establishment and equipping of TWO BL-3 laboratories**, one in Nairobi for testing human specimens. The second in Kisumu specific for testing avian specimens for avian influenza.

(ii) **Staffing and training Kenyan scientist** in start-of-the art testing of specimens using serology and real-time PCR technologies. Establishing and training Kenya staff in pathogen genome sequencing using the ABI 3100 DNA Sequencer.

(vi) **Laboratory support in diagnostics** – IEIP population-based surveillance in rural and urban Kenya population. Diagnostic support in Avian influenza surveillance.

June 2005 – Present: **Lead Scientist** –GDD/IEIP Rift valley fever virus surveillance project in humans, livestock and wildlife in Kenya. Development of the research protocol and studies.

ANIMAL-HUMAN (ONE-HEALTH) RESEARCH EXPERIENCE

August 2006 – Present: Research on non-epidemic activities of Rift Valley Fever (RVF) fever virus in Kenya. Research includes sentinel herd of sheep and goats at Ijara district and serosurvey on Kenya wildlife for RVF virus antibodies.

December 2009-Present: Surveillance of influenza at the human-animal interface in Kenya ecosystem (in collaboration with NIH and University of Minnesota). The study includes sampling avians, dogs, pigs, cats in the Kibera urban informal settlement and Lwak rural community. In addition, pigs at a slaughterhouse serving the Nairobi region are being sampled to determine the presence of pHIN1.

BIBLIOGRAPHY

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Katz MA., Muthoka P, Emukule GO, Kalani R, Njuguna H, waiboci LW, Ahmed JA, Bigogo G, Feikin DR, Kariuki Njenga M, Breiman RF, Mott JA. Results from the first six years of national sentinel surveillance for influenza in Kenya, July 2007-June 2013. PLoS One. 2014 Jun 23;9(6):e98615. doi: 10.1371/journal.pone.0098615. eCollection 2014.

Halliday JE, Knobel DL, Agwanda B, Bai Y, Breiman RF, Cleaveland S, Kariuki Njenga M, Kosoy M. Prevalence and diversity of small mammal-associated bartonella species in rural and urban Kenya. PLoS NTD 2015 Mar 17;9(3):e0003608. doi: 10.1371/journal.pntd.0003608. eCollection

Osoro EM, Munyua P, Omulo S, Ogola E, Ade F, Mbatha P, Mbabu M, Ng'ang'a Z, Kairu S, Maritim M, Thumbi SM, Bitek A, Gaichugi S, Rubin C, Kariuki Njenga M, Guerra M. Strong Association Between Human and Animal Brucella Seropositivity in a Linked Study in Kenya, 2012-2013. Am J Trop Med Hyg. 2015 Aug;93(2):224-31. doi: 10.4269/ajtmh.15-0113. Epub 2015 Jun 22. PMID: 26101275.

CURRICULUM VITAE

(b)(4); (b)(6)

Telephone Contac (b)(4); (b)(6)

(b)(4); (b)(6)

E-Mail: (b)(4); (b)(6)

EDUCATION

1995-1999: University of Pretoria, South Africa - PhD in Veterinary Surgery 1986-1990: University of Nairobi - Master of Science (MSc.) in Clinical Studies. 1981-1986:

University of Nairobi - Bachelor of Veterinary Medicine (BVM.)

CURRENT POSITION AND RESPONSIBILITIES

A Senior Lecturer in the Department of Clinical Studies, teaching both undergraduate and postgraduate students enrolled in Veterinary and Wildlife courses, and participating in clinical duties and outreach programmes in and outside the University Veterinary Teaching Hospital.

EXPERIENCE

2009/2010

A consultant with Kesarine and Associates on: "Review of Current Disease Surveillance and Livestock Marketing Systems in Kenya" An FAO Kenya / European Commission Project.

2014

A Consultant for International Livestock Research Institute (ILRI)in the Development of Animal Care, Use and Safe Work Practices Manuals ("IACUCs") for Kenya Wildlife Service (KWS) and Kenya Veterinary Vaccines Production Institute (KEVEVAPI). Exercise successfully completed and the Manuals handed over to the client.

2013-2015

Local Consultant working with International Consultants from the Elizabeth R Griffin Foundation of the U.S.A. on Biorisk Reduction in Low-Resource Environments - Kenya Study Phases I, II and III. I was involved in logistics and assessment of biosafety in all Regional Veterinary Investigation Laboratories and the Central Veterinary Investigation Laboratory at Kabete (Department of Veterinary Services) and the Laboratories at the Faculty of Veterinary Medicine, University of Nairobi. Following the initial evaluations, I was involved in follow-ups on recommendations made and training of laboratory staff from the project pilot laboratories of Nakuru RVIL (Veterinary)), Bungoma Referral Hospital (Public Health) and Keroka District Hospital (Public Health) on Biorisk Management, in Phase III of the project..

2015 to date

Head of Section - Wildlife programmes, Department of Clinical studies, University of Nairobi.

Appendix A Supplemental Information 

1. Human Resources Management

The Metabiota PM and PC will work closely with Metabiota's scientific bench and regional networks to identify and integrate appropriate internal SMEs to this project in order to further build out the project team. The PM will oversee and coordinate their efforts on the project in support of: updating and adapting existing One Health Epidemiology (OHE) training materials, originally developed for use in Kenya and Uganda, into both a dual module basic level curriculum and a dual module advanced level curriculum; and the development of a Training of Trainers (ToT) module in support of the adapted curriculum. The PM and PC will ensure that SMEs coordinate directly with project team members and perform required duties, and will track overall level of effort (LOE) according to budget and project requirements for all team personnel.

2.Communications Management

2.1 Customers Management

To support routine communication on the project critical to successful execution of the project, the PM and PC will establish bi-weekly project calls with all key stakeholders, to include the CBEP POC, subcontractors, SMEs, and others identified as critical to support this training during key phases identified in the project proposal. This will serve to ensure understanding of project requirements and to identify project risk at the forefront, in order to implement mitigation strategies throughout the project lifecycle, ensuring overall success. The PM will also lead communication efforts with DTRA CBEP for this activity, guaranteeing that all aspects of the project are being managed in direct coordination and communication with key team members. The PC will provide support to the PM by coordinating day-to-day activities and maintaining and scheduling routine communications, ensuring that stakeholders are provided routine visibility on the project through in-person and virtual meetings, calls, weekly reports, and updates.

2.2 Stakeholder Management

Through close coordination with DTRA CBEP, the Metabiota PM and PC will identify key stakeholders, subcontractors, SMEs, and others identified as critical to support this mentorship effort during key phases identified in the project proposal to support routine communication on the project critical to successful execution of the project, with whom the Project team will establish bi-weekly project calls. The Metabiota PC will regularly communicate the project status with the PM. The PC will manage the SMEs and and lead coordination with stakeholders, to include leading regular coordination calls with the project team and assist in participant coordination.

Metabiota will maintain timely communication with other performing contractors should the need arise. Metabiota project personnel will be proactive in their communications to these contractors to coordinate necessary activities and will respond promptly to any questions or concerns.

3. Risk Management

In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with

conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Limited Period of Performance (PoP)	The updating of OHE short course curriculum materials, development of basic and advanced tracks, and development of a Training of Trainers modules will require time beyond that allocated by the current PoP	5	4	(b)(4); (b)(6)	Metabiota, based on prior communication with DTRA CBEP, anticipates that the PoP for this TD will be extended upon approval of the planned contract extension for AEP.	Low
Limited budget for project coordination	The labor budget remaining after the requested allocation of time to technical personnel limits the involvement of Metabiota Project Management and Coordination staff, potentially leading to budget overrun or minimization of SME contact hours.	4	3	**Med-High**	Metabiota project coordination staff will work efficiently and with a detailed project plan while ensure that contact time with SME staff is efficient and that duplication of effort is avoided.	Med
Potentially limited LOE for new material development	The development of new course material, particularly for the advanced level and the ToT modules, will require additional research. Hours allocated to SME II and Trainer I may be insufficient to accomplish this task.	4	3	**Med-High**	Project SMEs will utilize their past experience and knowledge to make improvements to the materials and conduct targeted research as needed. Metabiota project management and coordination staff will ensure consistent and fluent communication between SMEs to ensure the avoidance of duplication of efforts.	Med-Low

Major direction change following in-person reviews	If Metabiota receives substantial feedback regarding the direction of the materials updates following in-person reviews, it may not be possible to accommodate the requested changes and adhere to schedule.	2	4	Med	Metabiota will base materials updates on the Landscape Analysis developed during TD-10 and coordinate with the DTRA CBEP South Africa country manager on a regular basis to ensure the updates are proceeding as anticipated.	Low

3. Risk Management

Task Name	Start Date	End Date	Duration (Days)
1. Proposal Development	**03/11/16**	**03/15/16**	**4d**
1.1 Proposal Development	03/11/16	03/15/16	4d
1.2 Proposal Submission	03/15/16	03/15/16	1d
2. Project Initiation	**03/11/16**	**03/21/16**	**10d**
2.1 SME Identification	03/11/16	03/21/16	10d
2.2 Work Plan Development	03/21/16	03/31/16	20d
2.3 Kickoff Meeting	03/21/16	03/21/16	1d
3. Curriculum Development	**03/21/16**	**11/15/16**	**34w1d**
3.1 Short Course Curriculum Adaptation Stage 1	03/21/16	05/31/16	10w1d
3.2 ToT Module Development Stage 1	03/21/16	05/31/16	10w1d
3.3 30% In-person review	05/31/16	05/31/16	1d
3.4 Short Course Curriculum Adaptation Stage 2	06/01/16	08/11/16	10w1d
3.5 ToT Module Development Stage 2	06/01/16	08/11/16	10w1d
3.6 60% In-person review	08/11/16	08/11/16	10w1d
3.7 Short Course Curriculum Adaptation Stage 3	08/12/16	11/15/16	13w4d
3.8 ToT Module Development Stage 3	08/12/16	11/15/16	13w4d
4. Project Closeout	**11/15/16**	**11/15/16**	**1d**
4.1 Submission of Materials	11/15/16	11/15/16	1d
4.2 Submission of Final Report	11/15/16	11/15/16	1d

5. Cost Management

The Metabiota PM and PC will ensure time and cost management through the routine receipt and analysis of project reports, and other needs to support project efforts while ensuring accurate and responsive financial reporting and facilitation of cost savings to the government wherever possible. The PM and PC will also ensure that all project deliverables are submitted on time and to the quality required for this engagement. This will include coordination,

development and submission of the following contract CDRLs associated with this project: CDRL A001 Monthly Report, All CDRLs will be developed and submitted according to the contract requirements, and associated timelines.

6. Quality Management

The Metabiota PM and PC will work closely with Metabiota SMEs to ensure all curriculum materials submitted meet or exceed those expectations set by DTRA CBEP's requirements and standards and ensure a high quality is maintained. To do so, the project team will perform routine risk assessments to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms. Through this mechanism, the SMEs will be specifically responsible for QA/QC of curriculum adaptation and training module development.

Routine communications will be maintained with DTRA CBEP regional leadership to ensure the project remains on track and is implemented according to standard.

From: (b)(6)
To:
Cc:

Subject: Approval of TD-001 Cameroon PPE VHF Training
Date: Wednesday, July 22, 2015 4:14:24 PM

H(b)(6)

Metabiota's proposal submitted on July 8, 2015 in support of Technical Directive 001 is hereby approved for implementation with a ceiling price of $125,975.

The Contractor should use its best efforts to perform the work specified in the Technical Directive within the estimated ceiling price. The Contractor should notify the Contracting Officer in writing whenever it has reason to believe that the costs for this Technical Directive are expected to go over the established ceiling price.

Regards,

(b)(6)
Team Lead, Contracting Officer (J4COC)
Defense Threat Reduction Agency
8725 John J Kingman Road, MSC 6201
Fort Belvoir, VA 22060
(b)(6)

From: (b)(6)
To:
Cc:

Subject: Approval of TD-004 MESA
Date: Wednesday, July 22, 2015 4:11:18 PM

H(b)(6)

Metabiota's proposal submitted on July 20, 2015 in support of Technical Directive 004 is hereby approved for implementation with a ceiling price of $393,550.

The Contractor should use its best efforts to perform the work specified in the Technical Directive within the estimated ceiling price. The Contractor should notify the Contracting Officer in writing whenever it has reason to believe that the costs for this Technical Directive are expected to go over the established ceiling price.

Regards,

(b)(6)
Team Lead, Contracting Officer (J4COC)
Defense Threat Reduction Agency
8725 John J Kingman Road, MSC 6201
Fort Belvoir, VA 22060
(b)(6)

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-c-0104	METABIOTA	13	

4. TD TITLE	5. TOTAL TD ESTIMATE
ONE HEALTH EPIDEMIOLOGY TRAINING IN UGANDA	HOURS: _____ DOLLARS: $ ____**$750,000.00**_____

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME (b)(6)	NAME (b)(6)
PHONE: (b)(6) EMAIL (b)(6)	PHONE EMAIL: (b)(6)

8 DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to continue implementation of the One Health Epidemiology training program in Uganda in accordance with SOW section 4.3, Task 3. In support of ongoing efforts, Metabiota should implement all activities as scheduled:

- Cohort 9 Module 1- 19-23 October 2015, Jinja District, Uganda
- Cohort 9 Module 2- 7-11, December 2015, Jinja District, Uganda
- Cohort 10, Module 1- 14-18 December 2015, Hoima District, Uganda
- Cohort 10, Module 2- 1-5 February 2016, Hoima District, Uganda

The contractor shall be responsible for coordination of activities with CBEP and the Inter Agency Health Team at the U.S. Embassy, Kampala prior to implementation. A proposal, training schedule and detailed budget, not to exceed $750K, for implementing this requirement is requested by 6 July, 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs in Block 15 below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Technical Approach: Metabiota will use the following technical approach to manage all tasks required for successful implementation of the project components and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. The following components will be executed concurrently and are required for this project:

Phase 1: Program Management and Coordination
Phase 2: Training Administration
Phase 3: Training Implementation

Objective: Coordinate with key in-country stakeholders to ensure trainers are properly oriented with the OHE training materials and training plan, participants meet criteria and have committed to fulfilling all requirements, and ensure responsible parities for contingent steps (logistics planning, participant coordination, trainer coordination, etc.) are identified and able to fulfill responsibilities within time, budget, and scope.

Process: Metabiota, in coordination with DTRA CBEP and key in-country stakeholders, will establish a communication plan and responsibility matrix for the conduction of the four OHE trainings, covering Module 1 and 2 for Cohorts 9 and 10. The project team will coordinate to finalize the trainer and participant lists for each cohort and training (4 trainings total, 4 Uganda based independent consultant trainers per training, 3 Metabiota personnel working in a management and oversight capacity per training, 25-30 participants per cohort) and ensure all parties involved are able to participate in full and fulfill all training requirements.

Metabiota will coordinate with local partners to disseminate timely and accurate correspondences and Letters of Invitation (LOIs) to all participants and trainers. Metabiota will coordinate with CLS for all participant and event logistics, as well as for the procurement of any necessary materials and training supplies.

Deliverables (Program Management) – All deliverables associated with Component 1 are associated with overall program management to ensure effective implementation of the all project objectives:

- Deliverable #1: Effective communications between all stakeholders to ensure all project activities are efficiently executed in accordance with Client and Host Country expectations and guidelines; including delivery of meeting minutes during stakeholder calls
- Deliverable #2: Maintain project schedules to ensure implementation of high-quality trainings within proposed project budget and in accordance with the technical approach (above);
- Deliverable #3: Maintain client, stakeholder, and contractor relationships;

Training Administration (July 1, 2015 – February 29, 2015) Objective: Develop quantitative and qualitative evaluations of all training Module 1 and Module 2 events. Provide lessons learned and recommendations in After Action Reports (AARs).

Process: Metabiota, in coordination with in-country stakeholders and Ugandan OHE trainers, will conduct both daily evaluations and pre- and post-training testing in order to develop a comprehensive evaluation of the training implementation. After the completion of all four trainings and data analysis, Metabiota will develop a comprehensive qualitative and quantitative evaluation of the training implementation.

Deliverables:

- Deliverable #1: Develop all pre training related documentation and CDRLs - Responsibility Matrix, Training Event Plans (TEPs), CLS forms, and Finalized Trainer and Participant Lists;
- Deliverable #2: Development of After Action Report;

-After Action Reports will contain in-depth recommendations, detailed lessons –learned, and further insight for the DTRA COR.

Training Implementation (July 1, 2015 - February 29, 2015) Objective: Facilitate the conduction of Module 1 and 2 OHE trainings (5 days each) for Cohorts 9 and 10 in the Jinja and Hoima Districts, respectively, and provice technical and programmatic support for the trainers and participants to complete of interim training requirements between Modules 1 and 2. Additionally, Metabiota will support and encourage collaboration and communication establishment amongst participants, with a focus on neighboring Districts, throughout the training sessions and the interim activities.

Process: Metabiota, in coordination with DTRA CBEP and key in-country stakeholders, will facilitate the four OHE trainings. In order to provide the Ugandan stakeholders with both technical and programmatic support and ensure project goals and objectives are being met, Metabiota trainers and, potentially, a scientific mentor will travel to each of the four trainings. Metabiota will conduct pre- and post- training testing as well as hold daily feedback sessions with the Ugandan trainers to identify gaps, reorient (if necessary) training approaches, and discuss lessons learned.

Deliverables:
- Deliverable #1: Submission of daily training evaluations and participant feedback;
- Deliverable #2: Submission of four Training Trip Reports (TTR)

-providing high level overview of the trainings and highlighting next step recommendations and cohort and module-specific lessons learned.
-Contractually required through CDRL 15

The following table (Timeline) describes the anticipated timeline of each phase.

Training	May – 15	Jun – 15	Jul – 15	Aug – 15	Sep – 15	Oct – 15	Nov - 15
Mod 1						Cohort 9	
Mod 2							

Training	Dec – 15	Jan - 16	Feb – 16	Mar – 16	Apr – 16	May - 16
Mod 1	Cohort 10					
Mod 2	Cohort 9		Cohort 10			

Risk Management:
In order to maintain our course of action and guarantee trainings that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation Plan	Residual Risk
Cost						
Communication and cultural boundaries disrupting training preparation and execution	Participants, and presenters do not have a clear understanding of logistical support	4	5	(b)(6)	Before the training Metabiota will support CDC-Uganda and MoH to ensure communication is provided to participants and presenters clearly outlines support for the training	Med
Schedule						
Submission of CCRs and TEPs	CCRs must be submitted at least 45 days prior to each event, and TEPs 65 days prior, and are dependent upon receipt of Letters of Technical Direction	5	5		Upon receipt of the Letter of Technical Direction, Metabiota shall immediately submit all DTRA required travel documents	Med-High
Performance						
Ability to collaborate with MoH Uganda	Trainers from MoH Uganda are required for effective implementation	3	3	Med	Metabiota will directly engage MoH trainers to ensure buy-in and support	(b)(6)
Logistics coordination	Russian based logistics company that is locally staffed, which can lead to misinterpretation of vital information	3	3	Med	Metabiota will directly engage both Russian and local based offices of TTI/CLS	

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$302,677
1003	MATERIALS	$21,054
1004	ODCs	$12,147
1005	TRAVEL	$45,828
TOTAL		**$381,705.27**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES)

Period of Performance:

The Period of Performance for this effort is May 16, 2015 to February 29, 2015.

One Health Epidemiology Uganda is a legacy project that allows Metabiota to incur costs immediately as the proposed period of performance begins, and regardless of a DTRA CBEP decision to move forward. In kind, our team accrued a total of 215 hours during this period to design and develop the proposal. This effort involved a total of 93 program management hours, 84 research and data analyst hours, 16 SME III hours, 16 SME I hours, and 6 Trainer I hours.

The original period of performance was altered from May 16, 2015 through December 31, 2016 to May, 2015 through February to allow for the planned execution of both module 1 and module 2 of cohort 10. The postponement of Cohort 9 from its original schedule dictated a need to shift the trainings accordingly.

Labor:

Costs for direct labor to support this activity is required for the following personnel:

- Metabiota Program Manager (b)(4); (b)(6) will oversee the execution of program objectives towards the completion of DTRA CBEP goals at the regional level, and will lead communication with DTRA CBEP for this activity. (b)(4); (b)(6) will do so by maintaining oversight of stakeholder coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. (b)(4); (b)(6) will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables erstwhile ensuring the program remains within scope, budget, and timeline. Additionally, prior to (b)(4); (b)(6) arrival and as part of his onboarding process, program management responsibilities were shared by Metabiota Program Manager (b)(4); (b)(6) As of July 7th 2015 and throughout the remaining period of performance (b)(4); (b)(6) will be the sole Program Manager for this effort.
- Metabiota Project Coordinator (Research and Data Analyst; RDA) (b)(4); (b)(6) will ensure the execution of project objectives towards the completion of DTRA CBEP goals at the project level. (b)(4); (b)(6) will do so by supporting stakeholder coordination and project execution, with a focus on project milestone achievement and stakeholder buy-in development and maintenance. (b)(4); (b)(6) will regularly communicate project status with (b)(4); and will assist (b)(4); in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. (b)(4); will also assist (b)(4); in ensuring all project requirements and deliverables are fulfilled while concurrently ensuring the project remains within scope, budget, and timeline.
- Metabiota Technical Manager (Trainer III) (b)(4); (b)(6) will oversee all aspects of the execution of the training events. Dr. (b)(4); (b)(6) will submit and track all Training Event Plans (TEPs), Training Trip Reports (TTRs), and After Action Reports (AARs). (b)(4); (b)(6) will also direct and manage the local trainers, ensuring optimal execution of a l training objectives. (b)(4); (b)(6) will manage in-country stakeholders and project execution, with a focus on buy-in maintenance. (b)(4); (b)(6) will direct feedback sessions with the local trainers daily, along with the Scientific Mentor, to discuss training material, lessons-learned, and review survey results from the participants. In addition, (b)(4); (b)(6) will support (b)(4); in ensuring the program remains within scope, budget, and timeline. (b)(4); (b)(6) contribution to this effort will have discontinued from 08/01/2015.
- Metabiota Training Administrator (Trainer I) (b)(4); (b)(6) , MPH will play a vital role in implementation, coordination, and reporting. He will travel to the field for trainings and lead reporting efforts. He will additionally support (b)(4); by attending meetings and communicating with relevant stakeholders. From a technical perspective he will use his expertise to support the dissemination efforts of (b)(4); (b)(6) and (b)(4); during field trainings and in the development of After Action Reports (AARs) and Training Trip Reports (TTRs).
- Metabiota Subject Matter Expert (SME III)- (b)(4); (b)(6) is an internationally known expert in epidemiology, virus ecology, viral hemorrhagic fevers, fundamentals and domains of disease emergence. Since the 1970s, he has been leading international teams with partner institutions of developing countries (Dakar, Senegal; Bangui, Central African Republic). He largely contributed to developing tools and implementing strategies for the control and prevention of transmitted disease, and has been published in more than two hundred scientific papers in peer-reviewed journa (b)(4); (b)(6) will support the OHE training programs by mentoring the local trainers and District participants in outbreak investigation and response best practices. In addition (b)(4); (b)(6) will facilitate the scientific collaborations and support daily training implementation discussions.
- Metabiota Project Support Staff (SME I)- Ms. Rachel Campbell was involved in supporting the development of the Technical proposal and budget for OHE Uganda. Her involvement in this project will have discontinued from 08/01/2015.
- Metabiota Regional Trainer and Mentor (Trainer I) (b)(4); (b)(6) based in Sierra Leone, is a recognized epidemiologist focusing in VHF contact tracing and rapid response systems. (b)(4); (b)(6) has lead on-the-ground teams of health workers investigating VHF outbreaks and clusters. (b)(4); (b)(6) will serve as a regional scientific mentor to both the participants and the local trainers. In addition (b)(4); (b)(6) will facilitate and support scientific collaborations and provide lessons-learned from his field experience while operating in the recent/ongoing Ebola outbreak in West Africa.
- Metabiota Local Trainers (Research and Data Analyst)- (b)(4); (b)(6) to be determined, will serve as lead trainers of the OHE modules 1 and 2 material. Each trainer is a Ministry-recognized and selected expert in the areas of outbreak investigation, surveillance, and response. They will execute the pre- and post-tests, as well as the daily surveys from the participants. The Trainers will lead small group sessions in a 1:6 ratio, and support and guide the participants' working projects that occur between modules. Working closely with (b)(4); (b)(6) the Trainers will implement a l OHE training materials including lectures, computer enrichment sessions, and exercises.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials:

Minor materials and supplies are required to support project activities including stakeholder outreach and coordination, training material production, and host country approval facilitation. Materials will include:

International Communication-Semi-monthly stakeholder meetings will occur to coordinate all upcoming trainings in-county. Internet systems and international calls will be utilized for this effort. Routine updates will take place via e-mail.

Printing Services- One set of OHE Modules 1 and 2 books, for 25 participants, and one set of Instructor Manuals, for 2 trainers, will be required. It is assumed that CLS will manage printing of all necessary materials. Metabiota will prepare the necessary documentation (e.g., CLS request forms) when seeking support for this activity.

Other Direct Costs:

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all project participants in accordance with DBA guidelines.

Subcontracts:

Local trainers may be utilized for execution of the training and will be subject to an Independent Consultant agreement.

Travel:
Funds are requested for three Metabiota personnel (two CONUS, one OCONUS) to travel to Uganda to facilitate each training event, four in total. Specifically, funding has been budgeted to support travel for two Metabiota personnel from CONUS for training implementation and oversight purposes. Additionally, in an effort to promote regional networking and capacity development, Metabiota has also budgeted travel funds for a Sierra Leonean field epidemiologist (e.g, James Bangura) to air in training implementation. Metabiota staff will support project implementation, coordinate stakeholders, and provide technical support for Ugandan OHE trainers. Metabiota staff will hold daily feedback sessions with the trainers prior to beginning coursework for the day, and support computer enrichment activities that follow each evening. Prior to execution of travel, a cost estimate will be provided to the AEP COR for review and approval. Metabiota will submit CLS forms requesting travel logistics support for participants (e.g., Trainees).

10. FUNDING AUTHORIZED THIS TD REV

1002	LABOR	$ 302,676.76	5/16/2015	2/29/2016
1003	MATERIALS	$ 21,054.00	5/16/2015	2/29/2016
1004	ODCs	$ 12,146.51	5/16/2015	2/29/2016
1005	TRAVEL	$ 45,828.00	5/16/2015	2/29/2016
	TOTAL	$ 381,705.27	5/16/2015	2/29/2016

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ _____$381,705.27_____

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ _____$381,705.27_____

12a. CURRENT PERIOD OF PERFORMANCE

_16 May 2015 – 29 Feb 2-16___

12b. TD REV PERIOD OF PERFORMANCE

___16 May 2015 – 29 Feb 2-16_____

13. CONTRACTOR SIGNATURE AND DATE

(b)(6)

Signatur

Date: 2 September 2015

14. REGION

AFRICOM

15. TECHNICAL POINTS OF CONTACT

(b)(6)
Uganda Country Manage

(b)(6)

AFRICOM Regional Science Manager

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)
COR / USCTD Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

From: (b)(6)
To:
Cc:
Subject: RE: Submission of revised technical proposal TD - 010
Date: Tuesday, September 01, 2015 2:24:53 PM

H(b)(6)

Metabiota's proposal submitted on 31 August 2015 in support of Technical Directive 010 is hereby approved for implementation with a ceiling price of $134,551.

The Contractor should use its best efforts to perform the work specified in the Technical Directive within the estimated ceiling price. The Contractor should notify the Contracting Officer in writing whenever it has reason to believe that that costs for this Technical Directive are expected to go over the established ceiling price.

Cheers,
(b)(6)

Email:(b)(6)
Phone
Mobil

-----Original Message-----
Fron(b)(6)
Sent: Monday, August 31, 2015 5:15 PM
To(b)(6)
Cc
Subject: Submission of revised technical proposal TD - 010

(b)(6)

Please find the attached revised Technical Proposal, revised budget, and associated comment tracker providing direct responses and source references for all queries.

Please feel free to contact me with any questions or needs for clarification.

Very Respectfully,

(b)(6)
Metabiota, Inc.
(b)(6) (office)
(cell)

From: (b)(6)
To:
Cc:

Subject: RE: [Non-DoD Source] Re: TD-020: Gabon Initial Engagement SME Support
Date: Thursday, December 10, 2015 3:29:48 PM
Attachments: CTR-CBEP_AEP_TD-020_Gabon_Engagement SME_10Dec2015_final.pdf

Thanks (b)(6)

The proposed approach is approved. I've updated blocks 10-12, and signed. Please send back with your signature as well.

Cheers,
(b)(6)

Emai (b)(6)
Phon
Mobi

-----Original Message-----
Fro (b)(6)
Sent: Thursday, December 10, 2015 1:58 PM
To (b)(6)
Cc (b)(6)
Subject: Re: [Non-DoD Source] Re: TD-020: Gabon Initial Engagement SME Support

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

(b)(6)

Please find attached our updated response to TD-020 attached. As requested, labor/days were truncated for our SME, and travel support for the Deputy Director was removed.

Please let us know if there are any additional questions or concerns.

Best regards,
(b)(6)

On 12/10/15, 11:57 AM (b)(6) wrote:
(b)(6)

>Thank (b)(6)
>
>
>Cheers,

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	20	

4. TD TITLE	5. TOTAL TD ESTIMATE:
Gabon Initial Engagement SME Support	HOURS: (b)(6) DOLLARS: $ (b)(6)

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide a Subject Matter Expert (SME) support on Gabon health systems and laboratory capabilities in accordance with SOW, Section 4.4, Task 2. This SME will provide technical support to the CBEP Gabon Country Manager for initial engagement activities with Gabonese ministerial officials, provide historical context and technical advice on gap analyses, and recommend CBEP engagement approaches with the Government of Gabon.

It is expected that implementation of this requirement will be approximately 100 hours of work consisting of (a) 1 x 7 day trip with CBEP representatives to Gabon in late Jan 2016, (b) bi-weekly (every other week) coordination meetings (est. 1 hour/each) before the trip, (c) weekly coordination meetings (est. 1 hours/each) for approximately 2 months after the trip, (d) written report conveying personal knowledge and expertise as well as engagement recommendations following the trip. (e) review of country engagement strategy documents (est. 5 hours).

The period of performance for this effort will be from 14 December 2015 to 31 March 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $50,000 is requested by 9 December 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation:
Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. Given the short suspense, it was not possible to have extensive conversations with the technical POCs listed prior to the development of this response. It is anticipated that the plan for TD-020 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Research and Data Analyst (RDA)) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:
In order to effectively ensure that an appropriate subject matter expert is available to provide the requested support, the Metabiota PM and PC will, upon approval of the TD, engage relevant DTRA CBEP stakeholders to clarify the type and extent of support required. Upon approval and receipt of additional information, the Metabiota PM and PC will identify appropriate SMEs.

From the information provided in Box 8, Metabiota's key assumption is that the purpose of this trip is to make introductions and build relationships with Gabonese personnel and institutions, and thus selecting SMEs with ***positive existing relationships is critical***. Metabiota has preliminarily identified a Francophone SME with extensive history working in Gabon: he has positive relationships with most (but not all) institutions and government ministries in Gabon relevant to the DTRA CBEP mission.

While our SME can provide extensive historical knowledge of the institution known as CIRMF (Centre International de Recherches Medicales de Franceville) in support of this technical direction, Metabiota believes that there is an unacceptable level of corporate risk to the company and operational risk to DTRA for him to attend meetings at CIRMF, and as such, if this SME is acceptable to DTRA, Metabiota recommends truncating the in-country support trip for our SME.

Together, the Metabiota team will actively participate in project communications in order to prepare for the in-country SME support and project closeout phases. As these project communications occur, the Metabiota SME will leverage his existing relationships with Gabonese personnel to assist DTRA CBEP stakeholders in developing an agenda and setting up meetings to occur during the week of travel.

The Metabiota PM and PC will work with the SME to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure that any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS.

In-country SME support
Based on our understanding of the requirements, the Metabiota SME will attend meetings with DTRA CBEP personnel. During these meetings, the Metabiota SME will facilitate introductions between DTRA CBEP and Gabonese personnel, and participate in discussions about CBEP objectives, lending technical expertise and advice where needed. Metabiota anticipates holding debriefs and strategy sessions with DTRA CBEP personnel each evening to recap each day's meetings and discuss the next day's meetings.

Project closeout
Upon return from Gabon, the Metabiota SME will participate in regular meetings with DTRA CBEP personnel to fully capture information gained during the in-country trip. The SME will also generate a report detailing that information, along with capturing as much information as is practicable from the SME's personal experiences. The SME, with the Metabiota PM and PC's guidance, will work with the DTRA CBEP personnel to understand

DTRA CBEP goals in Gabon and the region and create a list of suggested engagements (high-level only; Metabiota cannot provide suggestions on detailed work to be done as this may be construed as a conflict of interest;. The Metabiota team will also review strategy documents provided by DTRA CBEP and provide feedback. Lastly, upon request, the Metabiota team will generate a final project report summarizing all activities conducted in this effort.

Risk Management
Metabiota has identified potential risks which may be obstacles to accomplishing DTRA CBEP goals for this technical direction. They are listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Cost, Schedule, Performance, Quality						
Short proposal turnaround time	The short turnaround did not allow for extensive discussion with Technical POCs regarding clarification of requirements and background materials. Thus our proposed labor solution may be inadequate, impacting cost. It may also impact schedule, performance, and quality, as we may proceed to identify a SME who is incapable of meeting project requirements in a timely fashion or to the satisfaction of project stakeholders.	5	4	(b)(4); (b)(6)	Upon approval of the TD, Metabiota will work with DTRA to continue elucidating the requirements of this task. If Metabiota perceives there to be a significant possibility of the proposed solution not meeting cost, schedule, performance, or quality metrics, Metabiota will flag this immediately for DTRA and propose a new solution.	(b)(4); (b)(6)
Schedule / Performance						
Limited or non-existent window for the submission of CDRLs to support in international travel for SMEs	The effective execution of this technical direction is contingent on the delivery of SME support to Gabon for a 7-day trip. In order to this fulfill this need, Metabiota Project Management and Coordination staff will be tasked to submit necessary travel related CDRLs for DTRAs approval well ahead of time. Per the contract and this technical direction, Metabiota will need to submit a Cable Clearance Request in addition to a Travel Authorization 45 days prior to international and in-country travel respectively. As travel is slated to take place in late January 2016, it will be difficult to submit these documents in time.	5	5	(b)(4); (b)(6)	Metabiota will take every effort possible to ensure that all travel related CDRLs are submitted to DTRA CBEP as expediently as possible and ask for an exemption to the 45-day window for CDR submission. However, given that there is only a small window allowing Metabiota to accomplish this, the risk of cancellation due to CDRL lateness remains high.	(b)(4); (b)(6)
Limited or non-existent window for the submission of CDRLs to support in-country logistics via the CLS mechanism	It is not yet determined if Metabiota will need to engage logistics support services for the execution of the technical direction. However, upon this need becoming specified by our in-country partners, Metabiota will be tasked to develop and submit a CLS form at least 45 days before the in-country event. Given that the travel event is slated for late January 2016, our submission window is small or non-existent.	5	4		Metabiota will coordinate with DTRA stakeholders and our in-country partners immediately upon the approval of this technical direction to determine the extent and need for in-country logistics. Upon determination of this need, Metabiota will develop and submit the CLS form to DTRA CBEP expediently; however, it is anticipated that submitting it within the effective 45-day window will not be possible.	
Performance / Quality						
Subject matter expert identification and availability	The subject matter expertise required for in-country performance by this technical direction appears to be of a high and specific caliber. Although several current Metabiota staff meet or exceed these criteria, their individual availability with short notice may not be guaranteed.	2	1	Low-Medium	Metabiota will prioritize the requests of this technical direction and ensure that relevant personnel are available to and committed. In the unlikely event that any Metabiota staff SME is not available to function as an in-county performer, Metabiota project management staff will insure that an appropriate independent contractor is brought in to support that role.	
Performance / Operations						
Subject matter expert relationship with CIRMF	Our potential SME has a long and complicated personal history with the director of CIRMF, which may bring an unacceptable level of corporate and operational risk to the mission if asked to attend meetings at CIRMF in person.	4	4	Med-High	Metabiota SME will accompany the DTRA team in country except to meetings at CIRMF. He will provide as much background information as possible on CIRMF to the DTRA team in advance of their meeting, and provide feedback during debriefing.	Med

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$27,095.86
1003	MATERIALS	$0.00
1004	ODCs	$539.28
1005	TRAVEL	$4,320.00
TOTAL		**$31,955.14**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:

Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by leading proposal development and maintaining oversight of stakeholder and SME coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and any subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

The Metabiota PM will additionally provide management oversight of the SMEs throughout the duration of this project, assuring integration and harmonization with other Metabiota-led, DTRA CBEP-funded efforts in the greater West Africa region. The PM will also ensure that all project personnel (Metabiota and any subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include the acquisition of Defense Base Act insurance, overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism for subcontractors if any are utilized, and any other requirements which may be applicable to the work.

Metabiota Research and Data Analyst: The Metabiota RDA will act as a Project Coordinator (PC) throughout the planning and execution of project objectives. The Metabiota PC will assist the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will provide operational management of the SMEs by participating in regular communications between the DTRA CBEP stakeholders and the SMEs, acting to ensure all project requirements and deliverables are met, and that the program remains within scope, budget, and timeline. The PC will regularly communicate the project status with the PM. The PC will aid the PM and SMEs in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. The Metabiota PC will assist the SMEs with adhering to DoD contracting requirements, to include developing appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements, which may be applicable to the work.

Project Coordination, SME Support, and Closeout phases only:
Subject Matter Expert 3: The SME will participate in regular project coordination communications (teleconferences, emails) to ensure that he understands the context of the project, and the needs and expectations of the DTRA CBEP stakeholders (hours as estimated in box 8). The SME will complete any and all required trainings and documentation prior to and immediately following travel (estimated at 3 hours).

The SME will provide technical and programmatic support as directed by the project leads. This may include engaging in phone and email communications with personnel within government ministries or other organizations in Gabon in order to facilitate introductions and meetings leading up to the scheduled travel period (estimated at 8 hours). The SME will also provide any biological and historical expertise needed while facilitating meetings and discussions in country (estimated at 46 hours – 8 hours per day for 5 days, plus 1 hour each evening to plan for and discuss the next day's meetings, and 1 hour each evening to recap that day's meetings).

The SME will generate reports and recommendations (estimated at 5 hours) and review documents provided by DTRA (estimated at 5 hours).

Materials
No material costs are expected to be incurred.

Other Direct Costs
Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts
Metabiota does not expect to issue a subcontract in support of this technical direction. However, if necessary, independent consulting agreements or subcontracts will be issued to the SMEs and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel of the SME to Libreville, Gabon is requested for the purposes of executing the scope of this technical direction. Metabiota assumes that in-country travel arrangements if any, will be handled by DTRA CBEP. No additional travel is projected based on the requirements provided. The travel budget represents the estimated amount required; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	27,095.86	12/14/2015	3/31/2016
1003	MATERIALS	$	-	12/14/2015	3/31/2016
1004	ODCs	$	539.28	12/14/2015	3/31/2016
1005	TRAVEL	$	4,320.00	12/14/2015	3/31/2016
	TOTAL	**$**	**31,955.14**	12/14/2015	3/31/2016

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ $31,955.14 11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV: $ $31,955.14	14 DEC 2015 – 31 MAR 2016 12b. TD REV PERIOD OF PERFORMANCE 14 DEC 2015 – 31 MAR 2016	Signature: Date:

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
AFRICOM	(b)(6)	12/10/2015 X (b)(6) (b)(6) Signed by (b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

(b)(6)

>

>Email (b)(6)

>Phone

>Mobil

>

>

>-----Original Message-----

>From (b)(6)

>Sent: Thursday, December 10, 2015 10:27 AM

>To (b)(6)

>Cc

>

>(US

>

>Subject: Re: [Non-DoD Source] Re: TD-020: Gabon Initial Engagement SME

>Support

>

>Receive (b)(6)

>

>We will address your requested changes and resubmit TD-020 by COB today.

>

>Best regards,

(b)(6)

>

>On 12/10/15, 10:01 AM (b)(6)

(b)(6) wrote:

>>H (b)(6)

>>

>>After consultation with the Gabon Country Manager, please revise to

>>include SME TDY support in Gabon to only the first part of the week

>>for meetings with Embassy & Ministry officials. The SME can depart

>>prior to CBEP meetings with CIRMF. AEP Deputy Director travel is not required.

>>

>>Cheers

(b)(6)

>>

>>Emai (b)(6)

>>Phon

>>Mobi

>>

>>

>>-----Original Message-----

>>Fro (b)(6)

>>Sent: Wednesday, December 09, 2015 5:34 PM

>>To (b)(6)

>>Cc

>>

>>

>>(U

>>

>>Subject: [Non-DoD Source] Re: TD-020: Gabon Initial Engagement SME

>>Support

>>

(b)(6)

>>Please find our response to TD-020 attached. Of note, I have included
>>an unsigned Word document, due to the embedded budget, as well as a
>>signed PDF version.
>>
>>We look forward to any feedback you may have regarding this submission.
>>
>>Best regards,
(b)(6)
>>Metabiota, Inc.
>>emai(b)(6)
>>Mob
>>Sky
>>
>>CONFIDENTIALITY NOTICE: The information contained in this electronic
>>mail
>>(email) transmission (including attachments), is intended by Metabiota
>>for the use of the named individual or entity to which it is addressed
>>and may contain information that is privileged or otherwise confidential.
>>It is not intended for transmission to, or receipt by, any individual
>>or entity other than the named addressee except as otherwise expressly
>>permitted in this email transmission. If you have received this email
>>in error, please delete it without copying or forwarding it, and
>>notify the sender of the error by email reply.
>>
>>
>>
>>
>>
>>
>>
>>On 12/8/15, 9:10 AM, (b)(6)
>(b)(6) wrote:
>>
>>>H(b)(6)
>>>
>>>I hope this message finds you well. Please find attached, TD-020 for
>>>SME support for initial engagement activities with Gabonese
>>>ministerial officials, historical context, technical advise on gap
>>>analyses, and CBEP engagement approaches with the Government of Gabon.
>>>Response to TD is requested by COB 09 December 2015, for a PoP start
>>>of 14 December 2015.
>>>Please feel free to communicate directly with the Technical POCs
>>>identified in box 15 of the TD (also copied here), if you have any
>>>technical questions.
>>>
(b)(6)
>
>>>Cooperative Biological Engagement Program Cooperative Threat
>>>Reduction Defense Threat Reduction Agency
>>>Emai(b)(6)
>>>Phon
>>>Mobi
>>>
>>

>

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-c-0104	METABIOTA	14	A

4. TD TITLE	5. TOTAL TD ESTIMATE:
Development of a writing workshop to mentor selected participants of the One Health Zoonotic Diseases Workshop held in Kenya on March 2015.	HOURS: 394 DOLLARS: $ **$100,000.00**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)	PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

This revision to TD-14 provides additional guidance & clarification of the requirement to assist Metabiota in establishing a proposed implementation approach and budget for the period of performance. During the PoP, Metabiota is expected to:

a. Identify organizers of the Regional Conference on Zoonotic Diseases in Eastern Africa and collaborate with them to hold a 6-day writing workshop (not including venue, food, and travel logistics as this will be coordinated via CLS) for 20 participants. Metabiota should provide a PM and a SME1 for Project Coordination and Landscape Analysis. The hours required for this phase should not exceed 6 hours/week for two weeks each for the PM and SME1. Metabiota should reach out directly to (b)(6) the main POC of the One Health Workshop, to discuss what the vision for the implementation of the workshop is and to discuss SME support needed. Communication w(b)(6) should also include the discussion of the participants list, as the conference organizers have already identified them and will provide the names and draft manuscripts to Metabiota.

b. Coordinate with Kenyan collaborators to jointly identify no more than 2 Kenyan SMEs to participate in the writing workshop as well as pre- and post-workshop activities. For the first phase of Project Coordination and Landscape Analysis, the two Kenyan SMEs should also each not exceed 6 hours/week for two weeks. The writing coaches will provide mentorship to the participants and will help them convert their scientific data into a complete draft manuscript for a research paper to be submitted to a peer-review science journal. One manuscript will be developed per workshop participant. Metabiota will assist in the development of up to 20 papers/manuscripts. Additional communications regarding the SME assignments should occur during the activities described in a. and should be part of the not to exceed 6 hours/week.

c. Hypothesis Development and Article Framing- CBEP's expectation is that this workshop will provide the participants with the right skills and guidance to take their manuscripts to the next level, with the goal that that next level will be good enough for acceptance to a peer-reviewed journal. The SMEs will not need to contact the participants before the workshop due to the coordination through the Kenyan POCs and SMEs. Metabiota's SMEs (one from Metabiota and two Kenyans to be identified) will review the participants' manuscripts prior to the workshop. Each SME should not spend more than 20 hours total to complete the review and assessment of the manuscripts prior to the workshop as well as conduct any additional coordination among the SMEs. The SMEs will work together to determine if/how the manuscripts will be divided up as each SME may not need to conduct a detailed review of each manuscript. There may be additional SMEs identified for participation in all workshop activities (including pre- and post- workshop activities) by the Kenyan stakeholders but their time will not be funded by Metabiota. This should be discussed with the Kenyan POC noted above. PM oversight of the SME's review and coordination activities should not exceed 5 hours total.

d. Writing Workshop Implementation- The workshop outline should be as follows: 1) the main workshop will consist of 5 days (Monday-Friday) where the SME's will work together with the participants, 2) 1 day after the workshop for the SME's to finalize the review of the manuscripts, and 3) the travel days needed to travel between the U.S. and Kenya. PM participation during the workshop is acceptable. However, oversight should not necessitate as many hours as the SMEs efforts during the workshop, therefore Metabiota should propose PM hours planned to be spent only on this project, or provide sufficient clarification regarding PM tasks during the 6 working days to justify a full-time workload. The labor hours for each SME should not exceed 72 hours. PM hours are estimated at no more than 4 hours per day.

e. Paper Finalization and Publication Submission- CBEP and Metabiota will not be supporting or overseeing the submission of these manuscripts; for that reason, activities related to this should not be included in the proposed approach.

f. Post-workshop efforts- Post-workshop efforts will include the three SMEs (2 Kenyans and 1 Metabiota SME that participated in the workshop) spending no more than 20 hours each over 2-4 weeks to continue coordination with each other and potentially other SMEs (not funded via Metabiota) as well as finalize any needed review or revision of the manuscripts with the workshop participants. This may need to be divided between SMEs to stay within the 20 hour maximum. PM oversight of the SME's final review and coordination activities should not exceed 5 hours total.

g. For Materials and Supplies: CBEP expects participants to have relevant papers they have used in the past (to develop draft manuscripts papers and the presentations given at the One Health Conference). However, limited access to journals should be provided by Metabiota. The access per participant should be no more than 10 articles per person. This is an average and downloads should be managed by the PM and/or SMEs. A total number of 200 papers is authorized however this is the maximum which does not need to be met and should be used as needed per participant, not necessarily divided evenly if some participants do not require additional resources.

The period of performance for this effort will be from 18 September 2015 to 15 February 2016; however, CBEP anticipates the total time required to implement the requirement to be 20 weeks, including 2 weeks for Phase 1 (planning and SME identification), 3 weeks for Phase 2 (manuscript review and SME coordination), 1 week for Phase 3 (executing the workshop), and 4 weeks for Phase 4 (post-workshop coordination and manuscript review). Your technical approach, proposed budget, and basis of estimate for implementing this requirement is requested by 16 Sep 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Technical Approach
Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project phases and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. The following phases are required for this project:

Phase 1: Programmatic Coordination and Training Landscape Review
Phase 2: SME Review and Coordination
Phase 3: Writing Workshop Implementation
Phase 4: Post-workshop review and Summary Report Development

Phase 1 – Programmatic Coordination and Landscape Analysis (16 Sep - 24-Sep. 30, 2015)

Objective: Establish a communication and coordination plan with the Kenyan Zoonotic Disease Unit (ZDU), Global Implementation Solutions (GIS), and Conference to initiate collaboration and conduct a landscape review of technical writing capacities and needs in the One Health sector in Kenya.

Process: Metabiota, with direction from DTRA CBEP, will engage (b)(4); (b)(6) the main POC from the Regional Conference on Zoonotic Diseases in Eastern Africa, an event that took place in Naivasha, Kenya, March 2015. Through this collaboration, Metabiota will develop an understanding of Kenya's technical writing capacities and needs in the One Health sector. Metabiota will receive the list of selected writing workshop participants from (b)(4); (b)(6) Metabiota will also receive recommendation from (b)(4); (b)(6) for two mutually agreed upon Kenya based SME 3 technical writing experts to be brought on as independent contractors for this effort.

Deliverables:

- Deliverable 1: Submission of contacts list to include Writing Workshop participants and Kenyan SME III technical writing experts

Phase 2 – Pre-Workshop Participant Manuscript Review (Nov. 2, 2015-Jan. 29, 2016)

Objective: Selected participants set to attend the Writing Workshop will provide draft manuscripts for review by subject matter experts prior to their attendance. Technical writing SMEs will be able to gain a specific and in-depth understanding of the content they can expect during the writing workshop before attending.

Process: Metabiota, in coordination with DTRA-CBEP and (b)(6) will request that the selected participants produce draft manuscripts for review by the identified technical writing SMEs. Each SME will spend a defined number of hours reviewing the materials, and gaining a more defined understanding of the participants' approach. The SMEs will not be in contact with the participants during this phase, but will communicate among themselves with the assistance of the program manager to ensure that manuscripts to be reviewed are divided up appropriately among the team.

Deliverables:

- Deliverable 1: Submission of participants' draft manuscripts to include hypotheses, writing concepts and an approach plan, along with statements of accessible, supporting data.

Phase 3– Writing Workshop Implementation (Feb. 8-13, 2016)

Objective: Conduct a six-day workshop on various aspects of technical writing in order to train and mentor twenty participants representing the Kenyan One Health research sector.

Process: Metabiota will coordinate with the SME mentors and participants to conduct the six-day training in Kenya. This training will include a five days of lecture and working group sessions to cover topics including but not limited to scientific paper formatting, styling, and general requirements; the ethics of journal publication and authorship; the inclusion of background research and citing references, and understanding the impact factor and journal submission organizational techniques. Each participant will have access to the coaches, and be able to work directly with the SMEs on their material. The sixth and final day will allow for collaboration between the SMEs to finalize the review of manuscripts before departing.

Deliverables:

- Deliverable 1: Submission of the Training Trip Report and After-Action Report detailing the overall training processes and lessons learned and the results of knowledge gained assessments.

Phase 4 – Post-Workshop Review and Summary Report Development (Feb. 14-29, 2016)

Objective: Develop final report and provide final manuscript review and post-workshop support to participants as needed.

Process: Metabiota will work jointly with the SME mentors and participants to provide technical and programmatic support during the post-workshop phase. SMEs will coordinate with each other to ensure that no effort goes wasted and that manuscript reviews are comprehensive and supportive of the intended skill enhancement of the writers. SMEs will be able to communicate with participants during this period. Once complete, Metabiota will develop a final report detailing the overall processes and lessons learned.

Deliverables:

- Deliverable 1: Final report detailing overall processes and lessons learned

Risk Management:

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Cost						

						(b)(4); (b)(6)
Subject Matter Expert Subcontracting	Due to limited insight into participant profiles and research activities, additional costs and time-delays may occur to identify and coordinate the most appropriate SME coordination, which may impact the ability to conduct this activity in full.	3	3	Medium	As soon as Metabiota has a basic understanding of the participants' work, Metabiota will begin contacting necessary SMEs, refining the list as better understanding develops. Metabiota will attempt to reach basic agreement with SMEs as soon as possible and issue authorization to proceed while subcontracts are being put into place.	
Programmatic labor hours	Following guidance from CBEP POC's, the current budget for Metabiota Program Management and Project Coordination hours are extremely low. As a result, and based on previous experience implementing overseas activities, there is significant risk for budget overrun.	5	5	(b)(4); (b)(6)	Maximize efficiency regarding approved labor hours through best practice, and notification to DTRA CBEP contracting officer of expectations to run over budget.	
				Schedule		
Project Coordination	Kenya One Health Technical Writing Workshop involves a significant number of stakeholders and participants representing various organizations, putting implementation activities at risk of delay or cancellation.	5	2	Medium	Establish and hold regular calls with all stakeholders and identify multiple possible implementation dates. Identify critical components as early as possible and redirect efforts when it becomes clear that targeted implementation dates will not be achievable.	
				Performance		
Political Instability	Sporadic violence in northeastern Kenya may lead to risks of being unable to safely complete in-country work	2	5	Medium	Coordinate closely with DTRA and AFRICOM to be aware of any potential risks to performers, and target a location for the workshop well away from risky areas.	

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$85,141
1003	MATERIALS	$7,880
1004	ODCs	$3,542
1005	TRAVEL	$17,420
TOTAL		**$113,983**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Period of Performance

The Period of Performance for this effort is July 21, 2015 to February 29, 2016.

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As some of our Subject Matter Experts will be independent consultants the Metabiota PM will additionally oversee and ensure that all project personnel adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PM will provide management oversight of the project team, including independent consultants throughout the span of the project.

The Metabiota PM will oversee the coordination between the Kenyan stakeholders and the workshop planning team, and will ensure the project team captures and keeps in account stakeholder input regarding key information relevant to the planning of the workshop. The PM will travel to Kenya to

ensure the execution of the workshop proceeds smoothly and will provide oversight over all independent consultants. Lastly, the PM will provide oversight to ensure all required project closeout activities occur in a timely fashion.

Proposal Development - Phase 1:

Metabiota Subject Matter Expert I: The Metabiota SME I will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipat ng, managing. and communicating projects risks and recommended mitigation strategies to the funder.

Phase 2-4:

Subject Matter Expert III (2 total): We expect to identify two Kenya based SME III personnel with the support in large part from (b)(4); (b)(6) These SMEs will be fully qualified scientific experts with experience publishing in peer-reviewed journals. These SMEs will not require international travel, but will be compensated for domestic travel, and will be brought on as independent contractors to Metabiota.

The SMEs IIIs will each be assigned to work on reviewing manuscripts of the Writing workshop participants during phase 2. They will be tasked with workshop participation during phase 3. and final review during phase 4. These SMEs will be required to review relevant participant manuscripts closely during phase 2. This will require fully understanding the research that has been done, including a significant dive into the data collection and analysis that may have already been done to ensure that they utilize their time effectively during phase 3. During the workshop. SMEs will provide a mix of lectures discussing topics relevant to the authoring, editing. and publishing of scientific research. small group work reflecting those lectures, and one-on-one time with each of their assigned participants. Following the workshop, SMEs will provide follow-on mentoring to participants as they incorporate the lessons learned into the final drafts of their manuscript reviews and relevant reports during phase 4

Subject Matter Expert I (1 total): We expect to identify one US based Metabiota representative to serve as an SME I technical writer. This SME will be a fully qualified scientific expert with experience publishing in peer-reviewed journals.

The SME I will each be assigned to work on reviewing manuscripts of the Writing Workshop participants during phase 2 in concert with the SME 3s to avoid duplication of efforts. They will be tasked with workshop participation during phase 3, and final review during phase 4. This SME will be required to review relevant participant manuscripts closely during phase 2. This will require fully understanding the research that has been done, including a significant dive into the data collection and analysis that may have already been done to ensure that they utilize their time effectively during phase 3. During the workshop, SMEs will provide a mix of lectures discussing topics relevant to the authoring, editing, and publishing of scientific research, small group work reflecting those lectures, and one-on-one time with each of their assigned participants. Following the workshop, This SME will provide follow-on mentoring to participants as they incorporate the lessons learned into the final drafts of their manuscript reviews and relevant reports during phase 4.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials
We have budgeted for the possibility that we may need to provide access to scientific journal articles to the workshop participants while they are working on their manuscripts. Our estimate provides an average of 10 articles per participant at an estimated access price of $35 per article. It may well be the case that some of the Writing Workshop participants do not require the use of this many articles on average; in which case costs will not be incurred. Participants must have expressed support from an involved SME to facilitate the purchase of any scientific article. The budget for journal access may only be partially utilized.

We have also budgeted for a small quantity of office supplies to accommodate the printing of agendas, training materials, or workshop materials needed to successfully execute and support in-country project activities.

Lastly, we have budgeted for international communications ability for our project team while they are in country implementing the workshop. The costs budgeted here reflect activating a moderate calling plan for each traveler's cell phones. These charges also reflect the provision of USB modems and associated moderate data plans to both the travelers and in country SME IIIs. These items will only be purchased if the situation dictates the need (i.e. inability to access online communications outright), otherwise, these modems will not be procured.

Other Direct Costs
Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts
Subcontracts will be issued to SMEs, RDAs, and/or their home organizations as needed for the labor necessary for this effort. as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support the program manager 1 subject matter expert to Nairobi, Kenya to implement the writing workshop. The travel budget represents the estimated amount required; travel on the AEP contract is cost reimbursable.

Our travel budget assumes the workshop will be held on 6 consecutive days, with an additional day budgeted for set-up and coordination activities. If, through discussion with the Kenyan stakeholders, an alternative schedule is created or an alterative location is desired, travel costs may be impacted accordingly.

Kenyan SME III contractors will be provided with hotel, and per diem respective of their length of participation on this effort. Their cost for arriving to the venue will be covered independently; however, daily transport costs will be shared among the workshop team as a whole.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	85,141	9/25/2015	2/15/2016
1003	MATERIALS	$	7,880	9/25/2015	2/15/2016
1004	ODCs	$	3,542	9/25/2015	2/15/2016
1005	TRAVEL	$	17,420	9/25/2015	2/15/2016
	TOTAL	**$**	**113,983**	9/25/2015	2/15/2016

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $113,983

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $113,983

12a. CURRENT PERIOD OF PERFORMANCE

25 September 2015 – 15 February 2016

12b. TD REV PERIOD OF PERFORMANCE

25 September 2015 – 15 February 2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:_____

Date:

14. REGION

AFRICOM

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

(b)(6)

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

From: (b)(6)
To:
Cc:

Subject: Cancellation of TD-008
Date: Tuesday, August 18, 2015 1:58:02 PM

(b)(6)

This emails serves to officially notify you that DTRA has decided to cancel the currently unapproved TD-008.

Cheers.

(b)(6)
Cooperative Biological Engagement Program
Cooperative Threat Reduction
Defense Threat Reduction Agency
Email (b)(6)
Phone
Mobil

From: (b)(6)
To:
Cc:

Subject: Re: [Non-DoD Source] Re: TD 020: Gabon Final Engagement SME Support
Date: Wednesday, January 06, 2016 1:24:54 PM

H (b)(6)

After consultation with the Gabon Country Manager we are going to cancel this TD. If/when the requirement resurfaces, we will reconsider resurrecting it then.

Cheers,
(b)(6)
Email (b)(6)
Mobil

Sent from my iPhone

On Jan 6, 2016, at 10:29 AM (b)(6) wrote:

> Received. Thanks, (b)(6)
>
> On 1/6/16, 10:25 A wrote:
>
> (b)(6)
>
> Please hold off on scheduling any travel for this TD. More to come.
>
> Cheers,
>
> (b)(6)

-----Original Message-----

From: (b)(6)

Sent: Thursday, December 10, 2015 3:43 PM

To: (b)(6)

Cc: (b)(6)

Subject: Re: [Non-DoD Source] Re: TD-020: Gabon Initial Engagement SME Support

Thanks, (b)(6)

Please find the countersigned TD-020 attached.

Best regards,

(b)(6)

On 12/10/15, 3:29 PM, (b)(6)

(b)(6) wrote:

Thanks, (b)(6)

The proposed approach is approved. I've updated blocks 10-12, and signed. Please send back with your signature as well.

Cheers,

(b)(6)

Emai (b)(6)

Phon

Mobi

-----Original Message-----

From: (b)(6)

Sent: Thursday, December 10, 2015 1:58 PM

To: (b)(6)

Cc:

(b)(6)

(b)(6)

Subject: Re: |Non-DoD Source| Re: TD-020: Gabon Initial Engagement SME Support

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

(b)(6)

Please find attached our updated response to TD-020 attached. As requested, labor/days were truncated for our SME, and travel support for the Deputy Director was removed.

Please let us know if there are any additional questions or concerns.

Best regards,

(b)(6)

On 12/10/15, 11:57 AM, (b)(6)

(b)(6) wrote:

Thank (b)(6)

Cheers,

(b)(6)

Email: (b)(6)

Phone

Mobile

-----Original Message-----

From: (b)(6)

Sent: Thursday, December 10, 2015 10:27 AM

To: (b)(6)

Cc:

DTRA

(b)(6)

Subject: Re: [Non-DoD Source] Re: TD-020: Gabon Initial Engagement SME

Support

Receive (b)(6)

We will address your requested changes and resubmit TD-020 by COB today.

Best regards,

(b)(6)

On 12/10/15, 10:01 AM (b)(6)

(b)(6)

H (b)(6)

After consultation with the Gabon Country Manager, please revise to include SME TDY support in Gabon to only the first part of the week for meetings with Embassy & Ministry officials. The SME can depart prior to CBEP meetings with CIRMF. AEP Deputy Director travel is not required.

Cheers,

(b)(6)

Email (b)(6)

Phone

Mobil

-----Original Message-----

From: (b)(6)

Sent: Wednesday, December 09, 2015 5:34 PM

T (b)(6)

C

(b)(6)

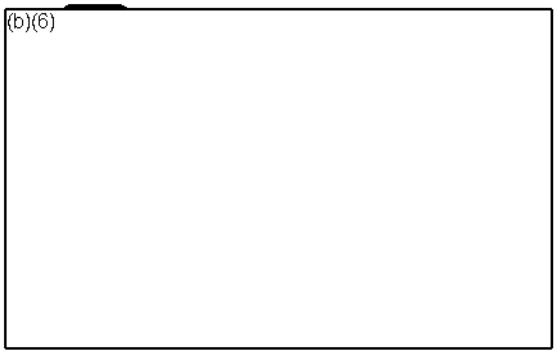
Subject: [Non-DoD Source] Re: TD-020: Gabon Initial Engagement SME Support

(b)(6)

Please find our response to TD-020 attached. Of note, I have included an unsigned Word document, due to the embedded budget, as well as a signed PDF version.

We look forward to any feedback you may have regarding this submission.

Best regards,



Metabiota, Inc.

(b)(6)

Mobile (b)(6)

Skype:

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this email in error, please delete it without copying or forwarding

it, and notify the sender of the error by email reply.

On 12/8/15, 9:10 AM, (b)(6) wrote:

(b)(6)

H (b)(6)

I hope this message finds you well. Please find attached, TD-020

for SME support for initial engagement activities with Gabonese

ministerial officials, historical context, technical advise on gap

analyses, and CBEP engagement approaches with the Government of Gabon.

Response to TD is requested by COB 09 December 2015, for a PoP start of 14 December 2015.

Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also copied here), if you have any technical questions.

(b)(6)

Deputy Chief Scientist

Cooperative Biological Engagement Program Cooperative Threat Reduction Defense Threat Reduction Agency

Email: (b)(6)

Phone:

Mobile:

J3CT Travel Requirements (Logistics Support)

☐ CONUS x OCONUS ☐ EXTERNAL (NCB, Policy, TRAC only)

DTRA Team Name		**Tasker No.**		**Date:10/19/15**
Program:	MoH/CDC Uganda District Epidemiology Tra ning			
POC Name and E-Mail		**PA Name and E-Mail**		
Purpose of Trip:				
Travel support is requested under TD-013 to attend the MoH/CDC Uganda District Epidemiology Training in Jinja District ,Eastern Uganda at Source of the Nile Hotel, P.O Box 1429, Plot 31 – 37 Bridge Street, Tel: (256) 434 123 034/(256) 718 660 202/(256) 790 911 318, email: sourceofthenilehotel@gmail.com				
Travel Dates (if traveling separately, list dates in comments)				
Day of Arrival:	**12/6/2015**	**Day of Departure:**	**12/11/2015**	
PM's Approval	**Sign:**		**Date:**	
DDIR's Approval *(CONUS Travel Only)*	**Sign:**		**Date:**	

Travelers	**Last Name**	**First Name**	**Organization**	**E-Mail (Optional)**
Health Officer	(b)(6)		Kiryandongo Local Govt	(b)(6)
Veterinary Office			Kiryandongo Local Govt	
Surveillance Focal Person			Kiryandongo Loca Govt	
Laboratory Focal Person			Kiryandongo Local Govt	
Medical Superintendent			Kiryandongo Local Govt	
Health Officer			Gomba Local Govt	
Veterinary Office			Gomba Local Govt	
Surveillance Focal Person			Gomba Local Govt	
Laboratory Focal Person			Gomba Local Govt	
Health Center IV In Charge			Gomba Local Govt	
Health Officer			Butambala Local Govt	
Veterinary Office			Butambala Local Govt	
Surveillance Focal Person			Butambala Local Govt	
Laboratory Focal Person			Butambala Local Govt	
Health Center IV In Charge			Butambala Local Govt	
Health Officer			Buvuma Local Govt	
Veterinary Office			Buvuma Local Govt	
Surveillance Focal Person			Buvuma Local Govt	
Laboratory Focal Person			Buvuma Local Govt	
Health Center IV In Charge			Buvuma Local Govt	
Health Officer			Wakiso Local Govt	
Veterinary Office			Wakiso Local Govt	
Surveillance Focal Person			Wakiso Local Govt	
Laboratory Focal Person			Wakiso Local Govt	
Health Center IV In Charge			Wakiso Local Govt	
Health Center IV In Charge			Zombo Local Govt	
Health Center IV In Charge			Mitooma Local Govt	

Each traveler on the team must provide justification for why they need to travel

J3CT Travel Requirements (Logistics Support)

DTRA Team Name		Tasker No.	
District Veterinary Officer	(b)(6)	(b)(6)	Sheema Local Govt (b)(6)

Support Requests: BAH Travel Dept (CONUS/OCONUS)	Yes	No	Comments/Specifics
Air Transportation		√	
Rental Car		√	
CR/Cable Assistance (External Only)		√	
Trip Books (External Only)		√	
Other Assistance (External Only)	√		Transport refund of USD 40.00 for a one way trip

Teams:	Departure Date	Departure Airport	Destination

J3CTE SUPPORT REQUIREMENTS:

Primary Name:

Alternate Name:

Support Requests: In-Country Logistics Support	Yes	No	Comments
Air Transportation		√	
Ground Transportation	√		Reimbursement for trainees and trainers (CDC Uganda identified amount is USD 40.00) for a one-way trip as transport refund per DTRA approval.
Rail Transportation		√	
Interpreter Support		√	
Hotel Accommodations	√		Accommodation for 29 training participants
Meeting Space	√		A meeting hall that can accommodate ~ 35 people comfortably
Embassy Letters		√	
Video teleconference		√	
Translation		√	
In-Country Cell Phone		√	Participants have personal cellphones

Certification for External Use Only: I affirm that at least 51% of the activities on the requested travel will be CTR-related		
Date		
Requestor's Name		
Requestor's Signature		
Approval for External Use Only		
Approver Name		
Approver Title		
Approver Signature		

Itinerary: Date and complete itinerary (including travel and meetings)	
6 Dec 2015	Participants arrive to the training venue. Ground transportation reimbursement requested unless DTRA approves otherwise.
7-11 Dec 2015	OHE Training, Cohort 09, Mod 02
11 Dec 2015	Participants depart to their home locations. Ground transportation reimbursement requested unless DTRA approves otherwise.

Specific Requests (insert names of travelers traveling on each separate itinerary below)		
Names		
In Country Air Transportation		
Date	Time	Location to location

Each traveler on the team must provide justification for why they need to travel

J3CT Travel Requirements (Logistics Support)

DTRA Team Name		Tasker No.	
Names			
In Country Ground Transportation			
Date	Time	Location to location	
Names			
In Country Rail Transportation			
Date	Time	Location to location	

Hotel Accommodations

Hotel	Name	Check-In	Check-Out
Source of the Nile Hotel	(b)(6)	6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015

Each traveler on the team must provide justification for why they need to travel

J3CT Travel Requirements (Logistics Support)

DTRA Team Name		Tasker No.	
Source of the Nile Hotel	(b)(6)	6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015

Comments (use this space for additional information)

1. CLS contract team is requested to identify, secure and provide the training venue in Jinja district of Ugnada for the event during 7-11 December 2015 – this is the most urgent request as the venue needs to go on the Letter of invitation to be sent out to the training participants.
2. CLS contract team is requested to provide per diem meal allowances to trainees and trainers per DTRA approval before 12:00 noon of each training date.
3. CLS contract team is requested to provide trainees and listed trainers with ground transportation reimbursement for costs going to and from the venue per DTRA approval (CDC Uganda identified amount is $40 each-way)..
4. CLS contract team is requested to provide or ensure that the venue will offer flip charts, markers, notebooks and pens provided as complimentary
5. CLS contract team is requested to provide or ensure that the venue possesses a backup generator, air conditioner, and clock in the meeting room.
6. CLS contract team is requested to ensure that the venue possess the number of power outlets and extension courds in training room adequate to support the listed participants.
7. CLS contract team is requested to secure and provide a meeting room for ~8 persons for early morning meetings (8:00am – 8:45am)
8. CLS contract team is requested to provide space to store 5 cargo trunks and boxes that hold the training manuals (in case the main training area is not big enough).
9. Printing of manuals. Student Version = 35 copies and instructor version = 10 copies
10. CLS contract team is requested to communicate on all arrangements with the following CDC Uganda POCs:
    - (b)(6)

Justification for Travel

Each traveler on the team must provide justification for why they need to travel. The justification must highlight how the trip will be impacted if the traveler is not physically present. Use additional space as necessary.

Each of these participants' respective positions in their districts requires that they attend the training in order to improve early detection and preparedness activities including timely outbreak investigation and response in their districts. This will assist Uganda MoH to meet the IHR requirements and improve the country's capacity for disease surveillance and outbreak response

OPTION YEAR - SOW Section 4.3, Task 5 Implementation of an Epigenetics and Genomics

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: June 1, 2015
PERIOD OF PERFORMANCE: Jun 1 2015 - Nov 30 2015
PROJECT: Epigenetics & Genomics Workshop - Jordan

oaded based on rate card):		LOE Hours		Amount
	(b)(4); (b)(6)	300	$	(b)(4); (b)(6)
CLIN 1002		586	$	
CLIN 1002		322	$	
CLIN 1002		325	$	
CLIN 1002		428	$	
CLIN 1002		820	$	
Total Labor Costs (fully loaded):		**2,781**		
OTHER DIRECT COSTS *(fully loaded):*				
CLIN 1003 Materials			$	
CLIN 1004 ODCs			$	
CLIN 1005 Travel			$	
Total Other Direct Costs (fully loaded):				
Total:				

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 1-Jun-15
Project Epigenetics & Genomics Workshop - Jordan
Period of Performance: Jun 1 2015 - Nov 30 2015

CLIN No.	Labor Description	Cost	Total Hours	Total Billable A
CLIN 1002	(b)(4); (b)(6)		300	(b)(4); (b)(6)
CLIN 1002			586	
CLIN 1002			322	
CLIN 1002			325	
CLIN 1002			428	
CLIN 1002			820	
			2,781	

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 1-Jun-15
Project Epigenetics & Genomics Workshop - Jordan
Period of Performance: Jun 1 2015 Nov 30 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1003	Publication and printing Conference Materials	$		
CLIN 1003	Printing and publication of final report	$		
CLIN 1003	Workshop Website	$		
CLIN 1003	Shipping of conference materials	$		
		Sub-Total		

(b)(4); (b)(6)

(b)(4); (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 1 Jun 15
Project Epigenetics & Genomics Workshop - Jordan
Period of Performance: Jun 1 2015 - Nov 30 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1004	SOS Insurance	$ (b)(4); (b)(6)	1	(b)(4); (b)(6)
CLIN 1004	DBA Insurance	$	1	
		Sub-Total	(b)(4); (b)(6)	
			Fully Loaded Amnt:	

PROJECTED TRAVEL COSTS - JORDAN

Traveler:	(b)(6); (b)(4)
Departure Location:	Los Angeles, CA
Destination:	Amman, Jordan
Purpose:	Scoping Visit
Airfare	$ 1,300.00
Service Fee/Airfare	$ 43.00
Lodging/ 8 nights	$ 1,992.00
Meals / Incidentals (2 travel days; 7 full days)	$ 1,198.50
Ground Transport/US	$ 300.00
Ground Transport/Jordan	$ 200.00
Registration Fee	$ -
Vaccinations	$ -
Other (comm costs, Internet etc)	$ -
Visa (business/ 6mo/multi-entry)	$ 301.50
# of Full Days	7
Total Per Trip	$ 5,335.00
No. of trips	1
No. of persons	1
SUBTOTAL:	**$ 5,335.00**
TOTAL TRAVEL BUDGET:	**$5,335**

Traveler:	(b)(6); (b)(4); (b)(6)
Departure Location	Washington, DC
Destination	Amman, Jordan
Purpose:	Scoping Visit
Airfare	$ 1,450.00
Service Fee/Airfare	$ 43.00
Lodging/ 8 nights	$ 1,992.00
Meals / Incidentals (2 travel days; 7 full days)	$ 1,198.50
Ground Transport/US	$ 300.00
Ground Transport/Jordan	$ 200.00
Registration Fee	$ -
Vaccinations	$ -
Other (comm costs, Internet etc)	$ -
Other/visa (business/ 6mo/multi-entry)	$ 301.50
# of Full Days	7
Total Per Trip	$ 5,485.00
No. of trips	1
No. of persons	1
SUBTOTAL:	**$ 5,485.00**
TOTAL TRAVEL BUDGET:	**$5,485**

Traveler:	Foreign (b)(6); (b)(4); (b)(6)
Departure Location:	Washington, DC
Destination:	Amman, Jordan
Purpose:	Conference & Hot Wash
Airfare	$ 1,550.00
Service Fee/Airfare	$ 43.00
Lodging/ 8 nights	$ 1,992.00
Meals / Incidentals (2 travel days; 7 full days)	$ 1,198.50
Ground Transport/US	$ 300.00
Ground Transport/Jordan	$ 200.00
Registration Fee	$ -
Vaccinations	$ -
Other (comm costs, Internet etc)	$ -
Other/visa (business/ 6mo/multi-entry)	$ 150.75
# of Full Days	7
Total Per Trip	$ 5,434.25
No. of trips	1
No. of persons	4
SUBTOTAL:	**$ 21,737.00**
TOTAL TRAVEL BUDGET:	**$ 21,737.00**

USG Foreign Per Diem Rates
(http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1160)

Location	Maximum Lodging	M&IE	Total
Amman, Jordan	249	141	390
Other, Jordan	146	105	251

OPTION YEAR - SOW Section 4.3, Task 5 Implementation of an Epigenetics and Genomics

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: June 30, 2015
PERIOD OF PERFORMANCE: Jun 1 2015 - Nov 30 2015
PROJECT: Epigenetics & Genomics Workshop - Jordan

oaded based on rate card):	LOE Hours	Amount
CLIN 1002	(b)(4); (b)(6)	
CLIN 1002		
CLIN 1002		
CLIN 1002		
CLIN 1002		
Total Labor Costs (fully loaded):		(b)(4); (b)(6)
OTHER DIRECT COSTS *(fully loaded)*:		
CLIN 1003 Materials		$ 39,235.44
CLIN 1004 ODCs		$ 5,669.05
CLIN 1005 Travel		$ 73,858.00
Total Other Direct Costs (fully loaded):		(b)(4); (b)(6)
Total:		

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**

Contract Number: HDTRA1-14-C-0104

Date Prepared: 30-Jun-15

Project Epigenetics & Genomics Workshop - Jordan

Period of Performance: Jun 1 2015 - Nov 30 2015

CLIN No.	Labor Description	Cost	Total Hours	Total Billable Amount $
CLIN 1002	(b)(4); (b)(6)	$ (b)(4); (b)(6)	300	(b)(4); (b)(6)
CLIN 1002		$	473	
CLIN 1002		$	625	
CLIN 1002		$	500	
CLIN 1002		$	428	
CLIN 1002		$	580	
			2,906	

Name	Role- Research Collaborator	Total Hours
(b)(4); (b)(6)	Scientific Advisory Committee Member- Jordan	58
	Scientific Advisory Committee Member - Lead Collaborator RSS	58
	Scientific Advisory Committee Member- Jordan	58 #
	Scientific Advisory Committee Member- Kingdom of Saudi Arabia	58
	Scientific Advisory Committee Member- Uzbekistan	58
	Scientific Advisory Committee Member- Lebanon	58
	Scientific Advisory Committee Member- Pakistan	58
	Scientific Advisory Committee Member- Afganistan	58
	Scientific Advisory Committee Member- Kazakhstan	58
	Scientific Advisory Committee Member- Iraq	58

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 30-Jun-15
Project Epigenetics & Genomics Workshop - Jordan
Period of Performance: Jun 1 2015 Nov 30 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1003	Publication Design Costs - Abstract Book	$	(b)(4); (b)(6)	(b)(4); (b)(6)
CLIN 1003	Workshop Website	$		
		Sub-Total		

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 30 Jun 15
Project Epigenetics & Genomics Workshop - Jordan
Period of Performance: Jun 1 2015 - Nov 30 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1004	SOS Insurance	$ (b)(4); (b)(6)	1	(b)(4); (b)(6)
CLIN 1004	DBA Insurance	$	1	
		Sub-Total	(b)(4); (b)(6)	

PROJECTED TRAVEL COSTS - JORDAN

Traveler:	Foreign (b)(6) (b)(4) (b)(6)
Departure Location:	Los Angeles, CA
Destination:	Amman, Jordan
Purpose:	Scoping Visit
Airfare	$ 1,300.00
Service Fee/Airfare	$ 43.00
Lodging/ 8 nights	$ 1,992.00
Meals / Incidentals (2 travel days; 7 full days)	$ 1,198.50
Ground Transport/US	$ 300.00
Ground Transport/Jordan	$ 200.00
Registration Fee	$ -
Vaccinations	$ -
Other (comm costs, Internet etc)	$ -
Visa (business/ 6mo/multi-entry)	$ 301.50
# of Full Days	7
Total Per Trip	$ 5,335.00
No. of trips	1
No. of persons	1
SUBTOTAL:	**$ 5,335.00**
TOTAL TRAVEL BUDGET:	**$5,335**

Traveler:	Foreign (b)(6) (b)(4) (b)(6)
Departure Location	Washington, DC
Destination	Amman, Jordan
Purpose:	Scoping Visit
Airfare	$ 1,450.00
Service Fee/Airfare	$ 43.00
Lodging/ 8 nights	$ 1,992.00
Meals / Incidentals (2 travel days; 7 full days)	$ 1,198.50
Ground Transport/US	$ 300.00
Ground Transport/Jordan	$ 200.00
Registration Fee	$ -
Vaccinations	$ -
Other (comm costs, Internet etc)	$ -
Other/visa (business/ 6mo/multi-entry)	$ 301.50
# of Full Days	7
Total Per Trip	$ 5,485.00
No. of trips	1
No. of persons	1
SUBTOTAL:	**$ 5,485.00**
TOTAL TRAVEL BUDGET:	**$5,485**

Traveler:	Foreign (b)(6) (b)(4) (b)(6)
Departure Location:	Washington, DC
Destination:	Amman, Jordan
Purpose:	Conference & Hot Wash
Airfare	$ 1,550.00
Service Fee/Airfare	$ 43.00
Lodging/ 8 nights	$ 1,992.00
Meals / Incidentals (2 travel days; 7 full days)	$ 1,198.50
Ground Transport/US	$ 300.00
Ground Transport/Jordan	$ 200.00
Registration Fee	$ -
Vaccinations	$ -
Other (comm costs, Internet etc)	$ -
Other/visa (business/ 6mo/multi-entry)	$ 150.75
# of Full Days	7
Total Per Trip	$ 5,434.25
No. of trips	1
No. of persons	4
SUBTOTAL:	**$ 21,737.00**
TOTAL TRAVEL BUDGET:	**$ 21,737.00**

USG Foreign Per Diem Rates
(http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1160)

Location	Maximum Lodging	M&IE	Total
Amman, Jordan	249	141	390
Other, Jordan	146	105	251

OPTION YEAR - SOW Section 4.3, Task 5 Implementation of an Epigenetics and Genomics

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: July 20, 2015
PERIOD OF PERFORMANCE: Jun 1 2015 - Nov 30 2015
PROJECT: Epigenetics & Genomics Workshop - Jordan

oaded based on rate card):		**LOE Hours**		**Amount**
	(b)(4); (b)(6)	300	$	(b)(4); (b)(6)
CLIN 1002		606	$	
CLIN 1002		625	$	
CLIN 1002		500	$	
	Total Labor Costs (fully loaded):	**2,031**		
	OTHER DIRECT COSTS *(fully loaded):*			
	CLIN 1003 Materials		$	39,235.44
	CLIN 1004 ODCs		$	5,669.05
	CLIN 1005 Travel		$	54,857.00
	Total Other Direct Costs (fully loaded):			(b)(4); (b)(6)
	Total:			

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 7/20/2015
Project: Epigenetics & Genomics Workshop - Jordan
Period of Performance: Jun 1 2015 - Nov 30 2015

CLIN No.	Name	Labor Description	Project Role	Cost	Total Hours	Total Billable Amount $
CLIN 1002	(b)(4); (b)(6)			(b)(4); (b)(6)	300	(b)(4); (b)(6)
CLIN 1002					396	
CLIN 1002					115	
CLIN 1002					95	
CLIN 1002					225	
CLIN 1002					400	
CLIN 1002					500	
					2,031	

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 7/20/2015
Project Epigenetics & Genomics Workshop - Jordan
Period of Performance: Jun 1 2015 - Nov 30 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1003	Publication Design Costs - Abstract Book	$	(b)(4); (b)(6)	(b)(4); (b)(6)
CLIN 1003	Workshop Website	$		
		Sub-Total		

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 7/20/2015
Project Epigenetics & Genomics Workshop - Jordan
Period of Performance: Jun 1 2015 - Nov 30 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1004	SOS Insurance	$ (b)(4); (b)(6)	1	(b)(4); (b)(6)
CLIN 1004	DBA Insurance	$	1	
		Sub-Total	(b)(6) (b)(4)	
			Fully Loaded Amt:	

PROJECTED TRAVEL COSTS - JORDAN

Traveler:	(b)(6) (b)(4)
Departure Location:	
Destination:	Amman, Jordan
Purpose:	Scoping Visit
Airfare	$ 2,900.00
Service Fee/Airfare	$ 43.00
Lodging/ 4 nights	$ 996.00
Meals / Incidentals (2 travel days; 3 full days)	$ 634.50
Ground Transport/US	$ 300.00
Ground Transport/Jordan	$ 200.00
Registration Fee	$ -
Vaccinations	$ -
Other (comm costs, Internet etc)	$ -
Visa (business/ 6mo/multi-entry)	$ 301.50
# of Full Days	5
Total Per Trip	$ 5,375.00
No. of trips	1
No. of persons	1
SUBTOTAL:	**$ 5,375.00**
TOTAL TRAVEL BUDGET:	**$5,375**

Traveler:	(b)(6) (b)(4)
Departure Location	
Destination	Amman, Jordan
Purpose:	Scoping Visit
Airfare	$ 2,700.00
Service Fee/Airfare	$ 43.00
Lodging/ 4 nights	$ 996.00
Meals / Incidentals (2 travel days; 3 full days)	$ 634.50
Ground Transport/US	$ 300.00
Ground Transport/Jordan	$ 200.00
Registration Fee	$ -
Vaccinations	$ -
Other (comm costs, Internet etc)	$ -
Other/visa (business/ 6mo/multi-entry)	$ 301.50
# of Full Days	5
Total Per Trip	$ 5,175.00
No. of trips	1
No. of persons	1
SUBTOTAL:	**$ 5,175.00**
TOTAL TRAVEL BUDGET:	**$5,175**

Traveler:	(b)(6) (b)(4)
Departure Location:	
Destination:	Amman, Jordan
Purpose:	Conference & Hot Wash
Airfare	$ 1,950.00
Service Fee/Airfare	$ 43.00
Lodging/ 8 nights	$ 1,992.00
Meals / Incidentals (2 travel days; 7 full days)	$ 1,198.50
Ground Transport/US	$ 300.00
Ground Transport/Jordan	$ 200.00
Registration Fee	$ -
Vaccinations	$ -
Other (comm costs, Internet etc)	$ -
Other/visa (business/ 6mo/multi-entry)	$ 904.50
# of Full Days	7
Total Per Trip	$ 6,588.00
No. of trips	1
No. of persons	4
SUBTOTAL:	**$ 26,352.00**
TOTAL TRAVEL BUDGET:	**$ 26,352.00**

USG Foreign Per Diem Rates
(http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1160)

Location	Maximum Lodging	M&IE	Total
Amman, Jordan	249	141	390
Other, Jordan	146	105	251

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	001	B

4. TD TITLE
PPE Donning and Doffing Biosafety Training and Viral Hemorrhagic Fever Clinical Recognition in Cameroon

5. TOTAL TD ESTIMATE:
HOURS. _____ DOLLARS: $ **$125,975**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE EMAIL. (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-001 from 30 Apr 2016 to 15 November 2016 at no additional cost. This PoP extension is to continue providing Personal Protective Equipment (PPE) Donning and Doffing Biosafety Training and Viral Hemorrhagic Fever (VHF) Clinical Recognition Training in Yaoundé, Cameroon. Metabota should coordinate directly with the Technical POCs identified below No changes to the previously approved proposal are required at this time

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV.
$ **$125,975**

12a. CURRENT PERIOD OF PERFORMANCE
16-MAY-2015 – 30 APR 2016

12b. TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE
(b)(6)
Signatu
Date: **13 May 2016**

14. REGION
AFRICOM/Cameroon

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X (b)(6)
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

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8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	001	C

4. TD TITLE
PPE Donning and Doffing Biosafety Training and Viral Hemorrhagic Fever Clinical Recognition in Cameroon

5. TOTAL TD ESTIMATE.
HOURS: _____ DOLLARS: $ **$9,915.21**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)

7. CONTRACTOR POC
NAME (b)(6)
PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE).

The purpose of this revision is to increase the TD ceiling by $9.915.21 and adjust funding on the CLINs detailed in Block 10 below.

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES .

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 116,633.64		
1003	MATERIALS	$ -		
1004	ODCs	$ 1,393.57		
1005	TRAVEL	$ 17,863.00		
	TOTAL	**$ 135,890.21**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$9,915.21**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV.
$ **$135,890.21**

12a. CURRENT PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

12b. TO REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE
Signature: _____
Date: **25 August 2016**

14. REGION
AFRICOM/Cameroon

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X (b)(6)
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

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Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	001	D

4. TD TITLE
PPE Donning and Doffing Biosafety Training and Viral Hemorrhagic Fever Clinical Recognition in Cameroon

5. TOTAL TD ESTIMATE
HOURS: _____ DOLLARS: $ **17,535.55**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The purpose of this revision is to increase the TD ceiling by $17,535.55 and adjust funding on the CLINs detailed in Block 10 below.

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below

No further changes to the previously approved proposal are required at this time

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 134,637.02		
1003	MATERIALS	$ -		
1004	ODCs	$ 290.01		
1005	TRAVEL	$ 18,498.73		
	TOTAL	**$ 153,425.76**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV
$ **$17,535.55**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV
$ **$153,425.76**

12a. CURRENT PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

12b TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE
(b)(6)
Signatu
Date: **15 November 2016**

14. REGION
AFRICOM/Cameroon

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
(b)(6)
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
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8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	002	C

4. TD TITLE
Implementation of Sample Collection and Diagnostics Training on Middle East Respiratory Syndrome (MERS-CoV) in Camels and Bats in Kazakhstan

5. TOTAL TD ESTIMATE.
HOURS: _____ DOLLARS: $ $0

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) EMAI (b)(6)

7. CONTRACTOR POC
NAME (b)(6)
PHONE
EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE).

This revision adjusts funding on the CLINs detailed in Block 10 below for closeout

The period of performance (PoP) for this TD has ended. This revision is part of TD closeout, tracking and invoicing purposes.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES .

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 265,503.22		
1003	MATERIALS	$ 42,674.32		
1004	ODCs	$ 5,227.12		
1005	TRAVEL	$ 63,529.18		
	TOTAL	**$ 376,933.84**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV.
$ $376,933.84

12a. CURRENT PERIOD OF PERFORMANCE
COMPLETED

12b. TD REV PERIOD OF PERFORMANCE
N/A

13. CONTRACTOR SIGNATURE AND DATE
Signature (b)(6)
Date: 25 August 2016

14. REGION
EUCOM

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X (b)(6)
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	004	B

4. TD TITLE
Implementation of an Epigenetics and Genomics of Infectious Diseases Workshop in the Middle East South Asia Region.

5. TOTAL TD ESTIMATE.
HOURS: _____ DOLLARS: $ $0

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)

7. CONTRACTOR POC
NAME (b)(6)
PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision adjusts funding on the CLINs detailed in Block 10 below for closeout

The period of performance (PoP) for this TD has ended. This revision is part of TD closeout, tracking and invoicing purposes.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES .

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 440,882.01		
1003	MATERIALS	$ 16,108.72		
1004	ODCs	$ 1,597.48		
1005	TRAVEL	$ 22,779.97		
	TOTAL	**$ 481,368.18**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV
$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ $481,368.18

12a. CURRENT PERIOD OF PERFORMANCE
COMPLETED

12b. TD REV PERIOD OF PERFORMANCE
N/A

13. CONTRACTOR SIGNATURE AND DATE
Signature (b)(6)
Date 25 August 2016

14. REGION
CENTCOM

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
(b)(6)
X
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	007	B

4. TD TITLE
DTRA/CBEP Implementation of a Regional Landscape Analysis in the Southeast Asia Region

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision adjusts funding on the CLINs detailed in Block 10 below for closeout

The period of performance (PoP) for this TD has ended. This revision is part of TD closeout, tracking and invoicing purposes.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES.):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 834,630.44		
1003	MATERIALS	$ 6,844.11		
1004	ODCs	$ 160.61		
1005	TRAVEL	$ 8,842.56		
	TOTAL	**$ 850,477.72**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$850,477.72**

12a. CURRENT PERIOD OF PERFORMANCE
COMPLETED

12b. TD REV PERIOD OF PERFORMANCE
N/A

13. CONTRACTOR SIGNATURE AND DATE
Signature: _____
Date:

14. REGION
PACOM

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
(b)(6)
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
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    b. Budget: Contractor enter proposed qnantity(ies) for TD completion.
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11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	009	A

4. TD TITLE
BS&S Training in South Africa

5. TOTAL TD ESTIMATE:
HOURS. _____ DOLLARS: $ **$335,608**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)

7. CONTRACTOR POC
NAME (b)(6)
PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

This revision extends the Period of Performance (PoP) for TD-009 from 15 May 2016 to 15 November 2016 at no additional cost. This PoP extension is to provide enough time to continue biosafety and biosecurity training implementation in South Africa. Metabota should coordinate directly with the Technical POCs identified below. No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV.
$ **$335,608**

12a. CURRENT PERIOD OF PERFORMANCE
16-MAY-2015 – 15 MAY 2016

12b. TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE
Signature: _____
Date: **13 May 2016**

14. REGION
AFRICOM/ South Africa

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X (b)(6)
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
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11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	009	B

4. TD TITLE
BS&S Training in South Africa

5. TOTAL TD ESTIMATE
HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE
NAME (b)(6)
PHONE (b)(6) EMAIL (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE
EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The purpose of this revision is to adjust funding on the CLINs detailed in Block 10 below.

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below

No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 203,823.30		
1003	MATERIALS	$ 129,124.43		
1004	ODCs	$ 1,860.00		
1005	TRAVEL	$ 799.38		
	TOTAL	**$ 335,607.11**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$335,607.11**

12a. CURRENT PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

12b. TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE
Signature (b)(6)
Date: **15 November 2016**

14. REGION
AFRICOM/ South Africa

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
(b)(6)
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
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4. Technical Directive Title
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    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	010	A

4. TD TITLE

One Health Epidemiology training in the Republic of South Africa

5. TOTAL TD ESTIMATE:

HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHONE: (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC

NAME: (b)(6)

PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision adjusts funding on the CLINs detailed in Block 10 below for closeout

The period of performance (PoP) for this TD has ended. This revision is part of TD closeout, tracking and invoicing purposes.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 128,216.80		
1003	MATERIALS	$ 40.11		
1004	ODCs	$ 209.84		
1005	TRAVEL	$ 6,084.39		
	TOTAL	**$ 134,551.14**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$134,551.14**

12a. CURRENT PERIOD OF PERFORMANCE

COMPLETED

12b TD REV PERIOD OF PERFORMANCE

N/A

13. CONTRACTOR SIGNATURE AND DATE

Signature: _____

Date: _____

14. REGION

AFRICOM: South Africa

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

(b)(6)

X _____

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
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11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
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12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	011	A

4. TD TITLE
Research Project Ukraine TADR Activity Project 4 (TAP-4)

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision adjusts funding on the CLINs detailed in Block 10 below for closeout

The period of performance (PoP) for this TD has ended. This revision is part of TD closeout, tracking and invoicing purposes.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES.):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 60,863.15		
1003	MATERIALS	$ 124.54		
1004	ODCs	$ -		
1005	TRAVEL	$ 16,657.12		
	TOTAL	**$ 77,644.81**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$77,644.81**

12a. CURRENT PERIOD OF PERFORMANCE
COMPLETED

12b. TD REV PERIOD OF PERFORMANCE
N/A

13. CONTRACTOR SIGNATURE AND DATE
Signature: _____
Date: _____

14. REGION
EUCOM/ Ukraine

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
(b)(6)
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
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    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
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    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
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8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	012	B

4. TD TITLE
Continued implementation of Research Activity Project UP-2 (Ukraine Project 2)

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$32,241.64**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHON (b)(6)
EMAIL: (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE: (b)(6)
EMAIL

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision increases the ceiling by $32,241.64 and adjusts funding on the CLINs detailed in Block 10 below for closeout

The period of performance (PoP) for this TD has ended. This revision is part of TD closeout, tracking and invoicing purposes.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 162,068.13		
1003	MATERIALS	$ 134,961.51		
1004	ODCs	$ -		
1005	TRAVEL	$		
	TOTAL	**$ 297,029.64**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$297,029.64**

12a. CURRENT PERIOD OF PERFORMANCE
COMPLETED

12b TD REV PERIOD OF PERFORMANCE
N/A

13. CONTRACTOR SIGNATURE AND DATE
Signature: _____
Date: _____

14. REGION
EUCOM: Ukraine

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
(b)(6)
X
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
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    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd, Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	013	B

4. TD TITLE

ONE HEALTH EPIDEMIOLOGY TRAINING IN UGANDA

5. TOTAL TD ESTIMATE:

HOURS. _____ DOLLARS: $ **$350,242**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)
PHONE (b)(6) EMAI (b)(6)

7. CONTRACTOR POC

NAME: (b)(6)
PHONE. EMAIL. (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-013 from 26 Feb 2016 to 15 November 2016 at no additional cost. This PoP extension is to provide enough time to continue implementation of the One Health Epidemiology training program in Uganda with the addition of a Cohort 11. Metabota should coordinate directly with the Technical POCs identified below. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below. No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$350,242**

12a. CURRENT PERIOD OF PERFORMANCE

16-MAY-2015 – 29-FEB- 2016

12b. TD REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature: _____

Date: **13 May 2016**

14. REGION

AFRICOM/ Uganda

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

(b)(6)

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
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    a. Funds Authorized for this TD Revision Exclusively
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    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd, Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	013	C

4. TD TITLE

ONE HEALTH EPIDEMIOLOGY TRAINING IN UGANDA

5. TOTAL TD ESTIMATE

HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)
PHON (b)(6) 1A (b)(6)

7. CONTRACTOR POC

NAME: (b)(6)
PHONE (b)(6) EMAIL

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The purpose of this revision is to adjust funding on the CLINs detailed in Block 10 below.

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below

No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 292,238.43		
1003	MATERIALS	$ 646.52		
1004	ODCs	$ 1,193.89		
1005	TRAVEL	$ 56,163.03		
	TOTAL	**$ 350,241.87**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$350,241.87**

12a. CURRENT PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

12b. TD REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature: _____

Date: **15 November 2016**

14. REGION

AFRICOM/ Uganda

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

(b)(6)

X _____

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	014	C

4. TD TITLE
Development of a writing workshop to mentor selected participants of the One Health Zoonotic Diseases Workshop held in Kenya on March 2015

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision adjusts funding on the CLINs detailed in Block 10 below for closeout

The period of performance (PoP) for this TD has ended. This revision is part of TD closeout, tracking and invoicing purposes.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES.):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 88,016.67		
1003	MATERIALS	$ 934.76		
1004	ODCs	$ 1,999.04		
1005	TRAVEL	$ 10,457.92		
	TOTAL	**$ 101,408.39**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$101,408.39**

12a. CURRENT PERIOD OF PERFORMANCE
COMPLETED

12b. TD REV PERIOD OF PERFORMANCE
N/A

13. CONTRACTOR SIGNATURE AND DATE
Signature: _____
Date: _____

14. REGION
AFRICOM/ Kenya

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
(b)(6)
X _____
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed qnantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	016	B

4. TD TITLE
Subject Matter Expertise in Geographic Information Systems (GIS) Modeling and Regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$147,000**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-016 from 15 May 2016 to 15 November 2016. This PoP extension is to continue providing expertise in geographic information systems (GIS) modeling and regional Single Nucleotide Polymorphisms (SNPs) at the Richard G Lugar Center for Public Health Research in Georgia. Metabiota should coordinate directly with the Technical POCs identified below Your technical approach as outlined in TD-016 Rev A with the exception of the 3 x 1 week of trips stipulated to support GG-27 (identified in box 8 paragraph 5 and box 9c under travel), proposed budget, and basis of estimate for continuing this requirement, not to exceed $147,000 is requested by 17 May 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below. No further changes to the previously approved proposal are required at this time

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation
Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8 and leverages information gleaned from discussions with A&AS contractors. Originally, a key assumption for this effort was that the Georgian scientists are generally capable of conducting GIS analyses on their own. After discussions with some individuals familiar with the level of expertise in Georgia and the scientific goals sought to be accomplished in the stated projects, Metabiota believes that the Georgian scientists will require an increased level of support when conducting GIS analyses. It is anticipated that the plan for TD-016 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as SME I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:
From the information provided in Box 8, Metabiota assumes that these projects are ongoing affairs led by a third party. The Metabiota PM, PC, and GIS SME(s) will participate in communications with the CBR teams to understand what the mentoring and research needs are for each project. The Metabiota PM and PC will work with the GIS SME(s) to ensure that mentoring and research needs are met as best as possible using remote technologies. The Metabiota PM and PC will also work with the project teams to ensure that the GIS SME(s) provide inputs to project deliverables in a timely manner.

Mentoring:
Mentoring will consist of ~~both in-country and~~ remote mentoring. After assessing the need for in-person GIS mentoring, the PM, PC, and primary GIS SME will work with the project teams to elucidate the specific goals, and requirements of each mentoring request to ensure that the mentoring visit is conducted efficiently and effectively. The primary GIS SME will work with the PM. PC, and appropriate stakeholders in each respective project to create a list of tasks to be accomplished by the Georgian scientists leading up to the mentoring visit, to create a list of topics for the primary GIS SME to be prepared to assist with during the mentoring visit, and to facilitate the communication and exchange of any necessary data or concepts both prior to and following each mentoring visit.

Reach-back support and Research collaboration.
Based on our updated understanding of the requirements and the proposed scope of the projects, Metabiota now expects to be required to provide significant GIS analysis support to the three projects, but does expect to place a significant focus on transitioning this expertise to the Georgians. Through regular communications with the respective project teams, Metabiota will be made aware of any additional subject matter expertise requests. The GIS SME will address these needs as they arise

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

Table 1: Incremental funding requested for 16 May 2016 – 15 November 2016, per CLIN. Please note that labor rates have changed.

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$132,202
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$132,202.28**

Table 2: Estimated total budget from 15 September 2015 through 15 November 2016, as of 17 May 2016, per CLIN:

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$253,341.58
1003	MATERIALS	$-
1004	ODCs	$1,753.69

1005	TRAVEL	$22,335.71
TOTAL		**$277,430.98**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES::

Labor

Costs for direct labor to support this activity is required for the following personnel:

All phases:

Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As some of our Subject Matter Experts and Research and Data Analysts may be independent consultants or subcontractors, the Metabiota PM will additionally oversee and ensure that all project personnel adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PM will provide management oversight of the project team, including subcontractors and independent consultants throughout the span of the project.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM and will manage the GIS SME, including all subcontractors, to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline.

The PC will coordinate with the project stakeholders to identify travel dates. The PC will participate in regular communications between the project stakeholders and the GIS SME. The PC will drive the coordination required to sufficiently gather the answers to the logistical questions that will arise in the planning and execution of requested travel for mentoring activities.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the GIS SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Subject Matter Expert 2: The SME 2 will serve as the primary GIS SME and research collaborator. The SME 2 will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project and the GIS subject matter expertise needed. The SME 2 will provide remote mentoring and research collaborator support as directed by the respective project leads.

Research and Data Analysts (RDAs). It is anticipated that the SME 2 will employ multiple RDAs with GIS expertise to assist him in mentoring the Georgian scientists in the advanced GIS techniques proposed in the three research projects and to assist in performing data analysis, technical writing, and other research duties as needed.

Materials

No materials are expected to be procured for this effort.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on work conducted overseas. As no work will be physically conducted overseas, no additional funds are being requested.

Subcontracts

Subcontracts will be issued to SMEs, RDAs, and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget. Metabiota anticipates issuing a firm-fixed price level of effort (FFPLOE) contract to the GIS SME team as a mechanism for controlling costs, as Metabiota expects that the cost for the total number of hours worked by the SME2 and RDAs to far exceed the previously budgeted amount.

Travel

No travel is anticipated during the extended period of performance and thus no additional funds are being requested.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $0

12a. CURRENT PERIOD OF PERFORMANCE

15-SEP-2015 – 15 MAY 2016

12b. TD REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:_____

Date:

14. REGION

EUCOM: Georgia

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing pnrposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclnsively
    b. Funds Authorized inclusive of all Revisions, Cnmmulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	016	B

4. TD TITLE
Subject Matter Expertise in Geographic Information Systems (GIS) Modeling and Regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia

5. TOTAL TD ESTIMATE.
HOURS: _____ DOLLARS: $ **$147,000**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC
NAME (b)(6)
PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE).

This revision extends the Period of Performance (PoP) for TD-016 from 15 May 2016 to 15 November 2016. This PoP extension is to continue providing expertise in geographic information systems (GIS) modeling and regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia Metabiota should coordinate directly with the Technical POCs identified below Your technical approach as outlined in TD-016 Rev A with the exception of the 3 x 1 week of trips stipulated to support GG-27 (identified in box 8 paragraph 5 and box 9c under travel), proposed budget, and basis of estimate for continuing this requirement, not to exceed $147,000 is requested by 17 May 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below. No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation
Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8 and leverages information gleaned from discussions with A&AS contractors. Originally, a key assumption for this effort was that the Georgian scientists are generally capable of conducting GIS analyses on their own. After discussions with some individuals familiar with the level of expertise in Georgia and the scientific goals sought to be accomplished in the stated projects, Metabiota believes that the Georgian scientists will require an increased level of support when conducting GIS analyses. It is anticipated that the plan for TD-016 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as SME I) time to identify the best path forward, required deliverables, anc any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:
From the information provided in Box 8, Metabiota assumes that these projects are ongoing affairs led by a third party. The Metabiota PM, PC, and GIS SME(s) will participate in communications with the CBR teams to understand what the mentoring and research needs are for each project. The Metabiota PM and PC will work with the GIS SME(s) to ensure that mentoring and research needs are met as best as possible using remote technologies. The Metabiota PM and PC will also work with the project teams to ensure that the GIS SME(s) provide inputs to project deliverables in a timely manner.

Mentoring:
Mentoring will consist of remote mentoring. After assessing the need for in-person GIS mentoring, the PM, PC, and primary GIS SME will work with the project teams to elucidate the specific goals, and requirements of each mentoring request to ensure that the mentoring visit is conducted efficiently and effectively. The primary GIS SME will work with the PM, PC, and appropriate stakeholders in each respective project to create a list of tasks to be accomplished by the Georgian scientists leading up to the mentoring visit, to create a list of topics for the primary GIS SME to be prepared to assist with during the mentoring visit, and to facilitate the communication and exchange of any necessary data or concepts both prior to and following each mentoring visit.

Reach-back support and Research collaboration:
Based on our updated understanding of the requirements and the proposed scope of the projects, Metabiota now expects to be required to provide significant GIS analysis support to the three projects, but does expect to place a significant focus on transitioning this expertise to the Georgians. Through regular communications with the respective project teams, Metabiota will be made aware of any additional subject matter expertise requests. The GIS SME will address these needs as they arise.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):
Table 1: Incremental funding requested for 16 May 2016 – 15 November 2016, per CLIN. Please note that labor rates have changed.

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$132,202.28
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$132,202.28**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal

development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As some of our Subject Matter Experts and Research and Data Analysts may be independent consultants or subcontractors, the Metabiota PM will additionally oversee and ensure that all project personnel adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PM will provide management oversight of the project team, including subcontractors and independent consultants throughout the span of the project.

Metabiota Subject Matter Expert 1. The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM and will manage the GIS SME, including all subcontractors, to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline.

The PC will coordinate with the project stakeholders to identify travel dates. The PC will participate in regular communications between the project stakeholders and the GIS SME. The PC will drive the coordination required to sufficiently gather the answers to the logistical questions that will arise in the planning and execution of requested travel for mentoring activities

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the GIS SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Subject Matter Expert 2: The SME 2 will serve as the primary GIS SME and research collaborator. The SME 2 will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project and the GIS subject matter expertise needed. The SME 2 will provide remote mentoring and research collaborator support as directed by the respective project leads.

Research and Data Analysts (RDAs): It is anticipated that the SME 2 will employ multiple RDAs with GIS expertise to assist him in mentoring the Georgian scientists in the advanced GIS techniques proposed in the three research projects and to assist in performing data analysis, technical writing, and other research duties as needed.

Materials

No materials are expected to be procured for this effort.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on work conducted overseas. As no work will be physically conducted overseas, no additional funds are being requested.

Subcontracts

Subcontracts will be issued to SMEs, RDAs, and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget. Metabiota anticipates issuing a firm-fixed price level of effort (FFPLOE) contract to the GIS SME team as a mechanism for controlling costs, as Metabiota expects that the cost for the total number of hours worked by the SME2 and RDAs to far exceed the previously budgeted amount.

Travel

No travel is anticipated during the extended period of performance and thus no additional funds are being requested.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 132,202.28		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ 132,202.28**		

COMMENTS (OPTIONAL)

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ $132,202.28	15-SEP-2015 – 15 MAY 2016	(b)(6) Signatu
11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:	12b. TD REV PERIOD OF PERFORMANCE	Date: 1 June 2016
$ $271,706.42	15-MAY-2016 – 15-NOV-2016	

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM/ Georgia	(b)(6)	X (b)(6) (b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	016	C

4. TD TITLE
Subject Matter Expertise in Geographic Information Systems (GIS) Modeling and Regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia

5. TOTAL TD ESTIMATE
HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The purpose of this revision is to adjust funding on the CLINs detailed in Block 10 below.

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below

No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES)

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN)

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES)

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 249,719.73		
1003	MATERIALS	$ -		
1004	ODCs	$ 421.56		
1005	TRAVEL	$ 21,566.13		
	TOTAL	**$ 271,707.42**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$271,707.42**

12a. CURRENT PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

12b. TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE
Signature: _____
Date: **15 November 2016**

14. REGION
EUCOM/ Georgia

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
(b)(6)
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	017	A

4. TD TITLE
Grantsmanship Support and Mentorship in Georgia

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$95,712**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision modifies the original technical directive and extends the end of the Period of Performance (PoP) for TD-017 from 15 May 2016 to 15 November 2016. This PoP extension is to continue providing expertise in grantsmanship at the Laboratory of the Ministry of Agriculture in Georgia only. The Metabiota team should no longer provide expertise in grantsmanship development at the Richard G. Lugar Center for Public Health Research. Metabiota should coordinate directly with the Technical POCs identified below. Your technical approach as outlined in TD-017, proposed budget, and basis of estimate for continuing this requirement, not to exceed $95,712 is requested by 17 May 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below. No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES)

Proposal Development & Initiation:
Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. A key assumption for this effort is that the Georgian scientists have their own research ideas which can be shaped into proposals. A second key assumption is that Metabiota Subject Matter Experts providing grantsmanship support will not be the primary drafters of any white papers or full proposals, but rather will only provide assistance in drafting said white papers and proposals. A third key assumption is that the Georgian scientists will not require any assistance in analysis of any data which may be presented in the proposals as preliminary work. It is anticipated that the plan for TD-017 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:
From the information provided in Box 8, Metabiota assumes that there are several relevant POCs at ~~both NCDC and~~ LMA which will be involved in the grantsmanship efforts. The Metabiota PM and PC will, upon approval of the TD, engage relevant ~~DTRA CBEP and Lugar Center~~ LMA stakeholders to begin understanding what efforts they would like to work on. Upon approval and receipt of additional information, the Metabiota PM and PC will identify a grantsmanship subject matter expert (billed as SME 2) and work to either onboard them as a Metabiota employee, or establish a subcontract or independent consulting arrangement with the VS. The Metabiota PM PC, and SME 2 will participate in communications with stakeholders at ~~NCDC and~~ LMA in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the SME 2 to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO-Tbilisi.

In-Country Grantsmanship Mentoring
Mentoring will consist of in-country and remote mentoring. Based on our understanding of the requirements, Metabiota does not expect to be required to provide data analysis support to the NCDC or LMA scientists. In order to ensure the success of the in-country mentoring visits, the PM, PC, and SME 2 will work with the POCs at NCDC and LMA to establish a list of de iverables to be provided to Metabiota prior to any in-country mentoring. These deliverables may include budgetary data drafts of proposed plans and SOPs, drafts of white papers and full proposals, and analyses of preliminary data complete with methodology. The PM and PC will maintain regular communications with the SME 2 to ensure that the SME 2 has all required resources for mentoring. After assessing the need for in-country mentoring, the SME 2 will implement the mentoring work plans, only assisting with actual proposal writing in cases of last resort.

Metabiota is proposing a slight alteration of our plans from Revision A based on observations from our first two in-country mentoring sessions. In particular, we have seen that mentees can become distracted with their primary duties at LMA and are thus proposing to run two cohorts of mentees simultaneously but for two weeks of half-day sessions. This would allow each cohort to dedicate part of their day directly to their normal duties which we believe will reduce distraction during the portion of their day focused on grantsmanship mentoring. One cohort would run in the mornings, and the other cohort would run in the afternoons. We are proposing to run two (2) two-week sessions (July and September), with remote mentoring in between, and to cap the effort with one (1) one-week session (November). The July session would focus on cohorts 1 & 3 – cohort 1 would be working on full proposal, cohort 3 would receive their first session on white papers. The September session would focus on cohorts 2 & 4 – cohort 2 would be working on full proposals, and cohort 4 would receive their first session on white papers. The November session would involve cohorts 3 & 4 and focus on full proposals, hopefully with cohort 1 working on the train-the-trainer approach.

Reach-back Support / Remote Mentoring:
Based on our understanding of the requirements, Metabiota does not expect to be required to provide primary authorship support to any proposals, but does expect the SME 2 to be available to ~~occasionally~~ provide remote editorial guidance and limited assistance with drafting of select passages. Through regular communications with the respective project teams, Metabiota will be made aware of any additional subject matter expertise requests. The SME 2 will address these needs as they arise.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):
Table 1: Incremental funding requested for 16 May 2016 – 15 November 2016, per CLIN. Please note that labor rates have changed.

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$116,462
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$31,357
TOTAL		**$147,819.10**

Table 2: Estimated total budget from 23 September 2015 through 15 November 2016, as of 17 May 2016, per CLIN:

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$229,646.73
1003	MATERIALS	$1,842.23
1004	ODCs	$947.95
1005	TRAVEL	$44,238.94
TOTAL		**$276,675.85**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Labor

Costs for direct labor to support this activity is required for the following personnel:

All phases:

Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Expert may be an independent consultants or subcontractor, the Metabiota PM will additionally provide management oversight of the project subcontractors (microbiology SME) and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the SME 2, to include leading regular coordination calls with the SME 2, participating in regular communications between the proposal stakeholders and the grantsmanship SME, and coordinating with the SME 2 to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline. The PC will aid the PM and SME 2 in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the grantsmanship SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Subject Matter Expert 2: The SME 2 will serve as the grantsmanship SME. The SME 2 will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each proposal, the needs and expectations of the Georgian scientists, and the grantsmanship assistance needed. The SME 2 will provide mentoring as directed by the respective project leads. We are expecting a higher level of effort required in the extension period as mentees move into developing full proposals which would require more time to review.

Materials

No additional material costs are projected for the extension of the period of performance.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel performing work overseas on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement. No additional funds for DBA insurance are requested for the extension of the period of performance.

Subcontracts

Subcontracts will be issued to the SME 2 and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested to support the deployment of the SME 2 to Tbilisi, Georgia for two (2) two-week deployments and one (1) one-week deployment.

No additional travel is projected based on the requirements provided. The travel budget represents the estimated amount required; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$** -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $0

12a. CURRENT PERIOD OF PERFORMANCE

23-SEP-2015 – 15 MAY 2016

12b. TD REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:_____

Date:_____

14. REGION

EUCOM/ Georgia

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing pnrposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclnsively
    b. Funds Authorized inclusive of all Revisions, Cnmmulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	017	A

4. TD TITLE
Grantsmanship Support and Mentorship in Georgia

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$95,712**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision modifies the original technical directive and extends the end of the Period of Performance (PoP) for TD-017 from 15 May 2016 to 15 November 2016. This PoP extension is to continue providing expertise in grantsmanship at the Laboratory of the Ministry of Agriculture in Georgia only. The Metabiota team should no longer provide expertise in grantsmanship development at the Richard G. Lugar Center for Public Health Research. Metabiota should coordinate directly with the Technical POCs identified below. Your technical approach as outlined in TD-017, proposed budget, and basis of estimate for continuing this requirement, not to exceed $95,712 is requested by 17 May 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below. No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES)

Proposal Development & Initiation:
Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. A key assumption for this effort is that the Georgian scientists have their own research ideas which can be shaped into proposals. A second key assumption is that Metabiota Subject Matter Experts providing grantsmanship support will not be the primary drafters of any white papers or full proposals, but rather will only provide assistance in drafting said white papers and proposals. A third key assumption is that the Georgian scientists will not require any assistance in analysis of any data which may be presented in the proposals as preliminary work. It is anticipated that the plan for TD-017 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:
From the information provided in Box 8, Metabiota assumes that there are several relevant POCs at ~~both NCDC and~~ LMA which will be involved in the grantsmanship efforts. The Metabiota PM and PC will, upon approval of the TD, engage relevant ~~DTRA CBEP and Lugar Center~~ LMA stakeholders to begin understanding what efforts they would like to work on. Upon approval and receipt of additional information, the Metabiota PM and PC will identify a grantsmanship subject matter expert (billed as SME 2) and work to either onboard them as a Metabiota employee, or establish a subcontract or independent consulting arrangement with the VS. The Metabiota PM, PC, and SME 2 will participate in communications with stakeholders at ~~NCDC and~~ LMA in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the SME 2 to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO-Tbilisi.

In-Country Grantsmanship Mentoring
Mentoring will consist of in-country and remote mentoring. Based on our understanding of the requirements, Metabiota does not expect to be required to provide data analysis support to the NCDC or LMA scientists. In order to ensure the success of the in-country mentoring visits, the PM, PC, and SME 2 will work with the POCs at NCDC and LMA to establish a list of deliverables to be provided to Metabiota prior to any in-country mentoring. These deliverables may include budgetary data, drafts of proposed plans and SOPs, drafts of white papers and full proposals, and analyses of preliminary data complete with methodology. The PM and PC will maintain regular communications with the SME 2 to ensure that the SME 2 has all required resources for mentoring. After assessing the need for in-country mentoring, the SME 2 will implement the mentoring work plans, only assisting with actual proposal writing in cases of last resort.

Metabiota is proposing a slight alteration of our plans from Revision A based on observations from our first two in-country mentoring sessions. In particular, we have seen that mentees can become distracted with their primary duties at LMA and are thus proposing to run two cohorts of mentees simultaneously but for two weeks of half-day sessions. This would allow each cohort to dedicate part of their day directly to their normal duties which we believe will reduce distraction during the portion of their day focused on grantsmanship mentoring. One cohort would run in the mornings, and the other cohort would run in the afternoons. We are proposing to run two (2) two-week sessions (July and September), with remote mentoring in between. In the July session, cohort 1 would be working on full proposal and cohort 2 would receive their second session on white papers. In the September session, cohort 1 would be finishing full proposals and participating in a train-the-trainer approach to assist cohort 2 with their first efforts on full proposals.

Reach-back Support / Remote Mentoring:
Based on our understanding of the requirements, Metabiota does not expect to be required to provide primary authorship support to any proposals, but does expect the SME 2 to be available to ~~occasionally~~ provide remote editorial guidance and limited assistance with drafting of select passages. Through regular communications with the respective project teams, Metabiota will be made aware of any additional subject matter expertise requests. The SME 2 will address these needs as they arise.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):
Table 1: Incremental funding requested for 16 May 2016 – 15 November 2016, per CLIN. Please note that labor rates have changed.

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$108,935.40
1003	MATERIALS	$0.00
1004	ODCs	$0.00
1005	TRAVEL	$25,570.50
TOTAL		**$134,505.90**

Table 2: Estimated total budget from 23 September 2015 through 15 November 2016, as of 17 May 2016, per CLIN:

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$221,182.37
1003	MATERIALS	$1,842.23
1004	ODCs	$947.95
1005	TRAVEL	$38,452.44
TOTAL		**$262,424.99**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES::

Labor

Costs for direct labor to support this activity is required for the following personnel:

All phases:

Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Expert may be an independent consultants or subcontractor, the Metabiota PM will additionally provide management oversight of the project subcontractors (microbiology SME) and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance. and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating. managing. and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the SME 2, to include leading regular coordination calls with the SME 2, participating in regular communications between the proposal stakeholders and the grantsmanship SME, and coordinating with the SME 2 to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline. The PC will aid the PM and SME 2 in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the grantsmanship SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance. and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Subject Matter Expert 2: The SME 2(s) will serve as the grantsmanship SME(s) The SME 2(s) will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each proposal, the needs and expectations of the Georgian scientists, and the grantsmanship assistance needed. The SME 2(s) will provide mentoring as directed by the respective project leads. We are expecting a higher level of effort required in the extension period as mentees move into developing full proposals which would require more time to review. During the base period we leveraged other CBEP work travel to Tbilisi to be able to supply additional fractional support in country, and expect to do the same during the extension period.

Materials

No additional material costs are projected for the extension of the period of performance.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel performing work overseas on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement. No additional funds for DBA insurance are requested for the extension of the period of performance.

Subcontracts

Subcontracts will be issued to the SME 2 and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested to support the deployment of the SME(s) to Tbilisi, Georgia for two (2) two-week deployments. During the base period we leveraged other CBEP work travel to Tbilisi to be able to supply additional fractional support in country, and expect to do the same during the extension period. No additional travel is projected based on the requirements provided. Projected airfares are based off of actual quotes, but may be subject to changes based on timing of purchase. The travel budget represents the estimated amount required; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$		
1003	MATERIALS	$		
1004	ODCs	$		
1005	TRAVEL	$		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $0

12a CURRENT PERIOD OF PERFORMANCE

23-SEP-2015 – 15 MAY 2016

12b TD REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:_____

Date:_____

14. REGION

EUCOM/ Georgia

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing pnrposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclnsively
    b. Funds Authorized inclusive of all Revisions, Cnmmulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	017	A

4. TD TITLE	5. TOTAL TD ESTIMATE.
Grantsmanship Support and Mentorship in Georgia	HOURS: _____ DOLLARS: $ **$95,712**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME (b)(6)	NAME (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE).

This revision modifies the original technical directive and extends the end of the Period of Performance (PoP) for TD-017 from 15 May 2016 to 15 November 2016. This PoP extension is to continue providing expertise in grantsmanship at the Laboratory of the Ministry of Agriculture in Georgia only. The Metabiota team should no longer provide expertise in grantsmanship development at the Richard G. Lugar Center for Public Health Research. Metabiota should coordinate directly with the Technical POCs identified below. Your technical approach as outlined in TD-017, proposed budget, and basis of estimate for continuing this requirement, not to exceed $95,712 is requested by 17 May 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below. No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation:
Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. A key assumption for this effort is that the Georgian scientists have their own research ideas which can be shaped into proposals. A second key assumption is that Metabiota Subject Matter Experts providing grantsmanship support will **not** be the primary drafters of any white papers or full proposals, but rather will only provide assistance in drafting said white papers and proposals. A third key assumption is that the Georgian scientists will not require any assistance in analysis of any data which may be presented in the proposals as preliminary work. It is anticipated that the plan for TD-017 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:
From the information provided in Box 8, Metabiota assumes that there are several relevant POCs at LMA which will be involved in the grantsmanship efforts. The Metabiota PM and PC will, upon approval of the TD, engage relevant LMA stakeholders to begin understanding what efforts they would like to work on. Upon approval and receipt of additional information, the Metabiota PM and PC will identify a grantsmanship subject matter expert (billed as SME 2) and work to either onboard them as a Metabiota employee, or establish a subcontract or independent consulting arrangement with the VS. The Metabiota PM, PC, and SME 2 will participate in communicat ons with stakeholders at LMA in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the SME 2 to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO-Tbilisi.

In-Country Grantsmanship Mentoring
Mentoring will consist of in-country and remote mentoring. Based on our understanding of the requirements, Metabiota does not expect to be required to provide data analysis support to the LMA scientists. In order to ensure the success of the in-country mentoring visits, the PM, PC, and SME 2 will work with the POCs at LMA to establish a list of deliverables to be provided to Metabiota prior to any in-country mentoring. These deliverables may include budgetary data, drafts of proposed plans and SOPs, drafts of white papers and full proposals, and analyses of preliminary data complete with methodology. The PM and PC will maintain regular communications with the SME 2 to ensure that the SME 2 has all required resources for mentoring. After assessing the need for in-country mentoring, the SME 2 will implement the mentoring work plans, only assisting with actual proposal writing in cases of last resort.

Metabiota is proposing a slight alteration of our plans from Revision A based on observations from our first two in-country mentoring sessions. In particular, we have seen that mentees can become distracted with their primary duties at LMA and are thus proposing to run two cohorts of mentees simultaneously but for two weeks of half-day sessions. This would allow each cohort to dedicate part of their day directly to their normal duties which we believe will reduce distraction during the portion of their day focused on grantsmanship mentoring. One cohort would run in the mornings, and the other cohort would run in the afternoons. We are proposing to run two (2) two-week sessions (July and September), with remote mentoring in between. In the July session, cohort 1 would be working on full proposal and cohort 2 would receive their second session on white papers. In the September session, cohort 1 would be finishing full proposals and participating in a train-the-trainer approach to assist cohort 2 with their first efforts on full proposals.

Reach-back Support / Remote Mentoring:
Based on our understanding of the requirements, Metabiota does not expect to be required to provide primary authorship support to any proposals, but does expect the SME 2 to be available to provide remote editorial guidance and limited assistance with drafting of select passages. Through regular communications with the respective project teams, Metabiota will be made aware of any additional subject matter expertise requests. The SME 2 will address these needs as they arise.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).
Table 1: Incremental funding requested for 16 May 2016 – 15 November 2016, per CLIN. Please note that labor rates have changed.

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$108,935.40
1003	MATERIALS	$0.00
1004	ODCs	$0.00
1005	TRAVEL	$25,570.50
TOTAL		**$134,505.90**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES .

Labor

Costs for direct labor to support this activity is required for the following personnel.

All phases:

Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity

As our Subject Matter Expert may be an independent consultants or subcontractor, the Metabiota PM will additionally provide management oversight of the project subcontractors (microbiology SME) and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the SME 2, to include leading regular coordination calls with the SME 2, participating in regular communications between the proposal stakeholders and the grantsmanship SME, and coordinating with the SME 2 to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline. The PC will aid the PM and SME 2 in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the grantsmanship SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements. to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Subject Matter Expert 2: The SME 2(s) will serve as the grantsmanship SME(s). The SME 2(s) will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each proposal, the needs and expectations of the Georgian scientists, and the grantsmanship assistance needed The SME 2(s) will provide mentoring as directed by the respective project leads. We are expecting a higher level of effort required in the extension period as mentees move into developing full proposals which would require more time to review. During the base period we leveraged other CBEP work travel to Tbilisi to be able to supply additional fractional support in country, and expect to do the same during the extension period.

Materials

No additional material costs are projected for the extension of the period of performance.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel performing work overseas on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement. No additional funds for DBA insurance are requested for the extension of the period of performance.

Subcontracts

Subcontracts will be issued to the SME 2 and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested to support the deployment of the SME(s) to Tbilisi, Georgia for two (2) two-week deployments. During the base period we leveraged other CBEP work travel to Tbilisi to be able to supply additional fractional support in country, and expect to do the same during the extension period. No additional travel is projected based on the requirements provided. Projected airfares are based off of actual quotes, but may be subject to changes based on timing of purchase. The travel budget represents the estimated amount required; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 108,935.40		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ 25,570.50		
	TOTAL	**$ 134,505.90**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV

$ $134,505.90

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $271,237.90

12a. CURRENT PERIOD OF PERFORMANCE

23-SEP-2015 – 15 MAY 2016

12b. TD REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

(b)(6)

Signatu

Date: **8 June 2016**

14. REGION

EUCOM/ Georgia

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

(b)(6)

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	017	B

4. TD TITLE
Grantsmanship Support and Mentorship in Georgia

5. TOTAL TD ESTIMATE
HOURS: _____ DOLLARS: $ **$0.09**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE: (b)(6) EMA (b)(6)

7. CONTRACTOR POC
NAME (b)(6)
PHON
EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The purpose of this revision is to increase the TD ceiling by $0.09 and adjust funding on the CLINs detailed in Block 10 below.

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below

No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN)

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 233,306.29		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ 37,931.70		
	TOTAL	**$ 271,237.99**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV
$ **$0.09**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$271,237.99**

12a. CURRENT PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

12b. TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE
(b)(6)
Signature
Date: **15 November 2016**

14. REGION
EUCOM/ Georgia

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
(b)(6)
X
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	018	A

4. TD TITLE
On-site Expertise in Genomic Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia

5. TOTAL TD ESTIMATE:
HOURS. _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-018 from 15 May 2016 to 15 August 2016 at no additional cost. This PoP extension is to provide enough time to continue providing on-site expertise in genomic research activities at the Richard G. Lugar Center for Public Health Research in Georgia. Metabota should coordinate directly with the Techn cal POCs identified below No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV.
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$0**

12a. CURRENT PERIOD OF PERFORMANCE
21-SEP-2015 – 15 MAY 2016

12b. TO REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-AUG-2016

13. CONTRACTOR SIGNATURE AND DATE
Signature:
Date: **13 May 2016**

14. REGION
EUCOM/ Georgia

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
(b)(6)
X
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd, Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	018	B

4. TD TITLE	5 TOTAL TD ESTIMATE.
On-site Expertise in Genomic Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia	HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE	7 CONTRACTOR POC
NAME: (b)(6)	NAME (b)(6)
PHONE: (b)(6) EMAIL (b)(6)	PHONE EMAIL (b)(6)

8 DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE).

This revision extends the Period of Performance (PoP) for TD-018 from 15 August 2016 to 15 November 2016. This PoP extension is to provide enough time to continue providing on-site expertise in genomic research activities at the Richard G. Lugar Center for Public Health Research in Georgia. Metabiota should coordinate directly with the Technical POCs identified below. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below. No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES)

Proposal Development & Initiation:
Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. A key assumption for this effort is that the Georgian scientists are generally capable of conducting genomics and bicinformatics analyses on their own but that the requested support personnel will occasionally be asked to directly perform genomic and bioinformatics analyses. A second key assumption for this effort is that it is expected to be a full-time expat position. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) I) time to identify the best path forward, requ red deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:
Upon approval and receipt of additional information, the Metabiota PM and PC will work with the identified VS to modify their existing subcontract. The Metabiota PM, PC, and VS will participate in project communications in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the VS to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota PM and PC will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work w th the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO-Tbilisi.

Mentoring and Performance of both Genomics and Bioinformatics Analyses and Operational Oversight of the Genomics Center:
Mentoring will consist of in-country mentoring supporting various genomics and bioinformatics projects being conducted in Georgia by NCDC and LMA. The PM and PC will maintain regular communications with the VS tc ensure that the VS has all required resources for mentoring. After assessing the need for genomics mentoring, the VS will work with the PM, PC, and other appropriate stakeholders to develop mentoring work plans. The VS will then implement the mentoring work plans, assisting with actual analyses and scientific writing when necessary. Additionally, the VS will provide oversight over the operations of the genomics center. The VS will work with Lugar Center POCs to identify candidates for mentorship in operating the genomics center, and work with the PM, PC, and Lugar Center stakeholders to develop and execute a strategy for developing these candidates' abilities to operate the genomic center without guidance.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN)

Budget requested in the table below is incremental funding per CLIN requ red for the extension period and does not include original funding amounts.

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$102,801
1003	MATERIALS	$0
1004	ODCs	$1,344
1005	TRAVEL	$0
TOTAL		**$104,144.96**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES

Labor
Costs for direct labor to support this activity is required for the following personnel

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensur ng the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Expert will be a subcontractor, the Metabiota PM wi l additionally provide management oversight of the genomics SME and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and

subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the genomics SME, to include leading regular coordination calls with the genomics SME, participating in regular communications between the project stakeholders and the genomics SME, and coordinating with the genomics SME to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline. The PC will aid the PM and VS in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. The Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Project Coordination & Mentorship phases only:
Visiting Scientist: The VS will serve as the genomics SME. The VS will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project, the needs and expectations of the Georgian scientists, and the genomics subject matter expertise needed. The VS will provide mentoring as directed by the respective project leads. The VS will also provide oversight and management of the Genomics Center at the Lugar Center. Labor has been calculated at approximately 0.7 FTE.

Other Direct Costs
Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts
A subcontract extension will be issued to the VS and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support the deployment of the VS to Tbilisi, Georgia for the initial deployment travel and final return. No additional travel is projected based on the requirements provided. The travel budget represents the estimated amount required; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable. Also of note, lodging at GSA rates for Tbilisi, Georgia have included to this budget. It is assumed that the TBD VS will require some time to identify long term lodging (length of assignment), which would be covered by his expat uplift.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	102,801.00		
1003	MATERIALS	$	-		
1004	ODCs	$	1,343.96		
1005	TRAVEL	$	-		
	TOTAL	$	**104,144.96**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ $104,144.96

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ $488,580.96

12a. CURRENT PERIOD OF PERFORMANCE
15-MAY-2016 – 15-AUG- 2016

12b. TD REV PERIOD OF PERFORMANCE
15-AUG-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE
Signatu (b)(6)
Date: 19 August 2016

14. REGION
EUCOM/ Georgia

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
(b)(6)
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
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11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	018	B

4. TD TITLE
On-site Expertise in Genomic Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision adjusts funding on the following internal TD-017 CLINs:
(1) From CLIN 1003, move $4,579.25 to CLIN 1002
(2) From CLIN 1004, move $7,844 84 to CLIN 1002
(3) From CLIN 1005, move $4,217.00 to CLIN 1002

The total funding moved from CLINs 1003, 1004 & 1005: $16,641.09

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$		
1003	MATERIALS	$		
1004	ODCs	$		
1005	TRAVEL	$		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$384,436.00**

12a. CURRENT PERIOD OF PERFORMANCE
15-MAY-2016 – 15-AUG-2016

12b TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-AUG-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:

Date: _____

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM/ Georgia	(b)(6)	X (b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed qnantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	018	C

4. TD TITLE
On-site Expertise in Genomic Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia

5. TOTAL TD ESTIMATE
HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The purpose of this revision is to adjust funding on the CLINs detailed in Block 10 below.

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 482,758.67		
1003	MATERIALS	$ -		
1004	ODCs	$ 5,822.00		
1005	TRAVEL	$ -		
	TOTAL	**$ 488,580.67**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$488,580.67**

12a. CURRENT PERIOD OF PERFORMANCE
15-AUG-2016 – 15-NOV-2016

12b. TD REV PERIOD OF PERFORMANCE
15-AUG-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE
Signature: (b)(6)
Date: **15 November 2016**

14. REGION
EUCOM/ Georgia

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
(b)(6)
X
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
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    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
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11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd, Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	019	A

4. TD TITLE
On-site Expertise in Genomic Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$382,331**

6. CONTRACING OFFICER REPRESENTATIVE
NAME (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC
NAME (b)(6)
PHONE (b)(6) EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-018 from 15 May 2016 to 15 November 2016. This PoP extension is to continue providing on-site expertise in microbiology research activities at the Richard G. Lugar Center for Public Health Research in Georgia. Metabota should coordinate directly with the Technical POCs identified below. Your technical approach as outlined in TD-019, proposed budget, and basis of estimate for continuing this requirement, not to exceed $342,000 is requested by 17 May 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below. No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation:
Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8 of the original version of the TD. A key assumption for this effort is that the Georgian scientists are generally capable of conducting microbiological analyses on their own but that the requested support personnel will occasionally be asked to directly perform microbiological analyses. A second key assumption for this effort is that it is expected to be a full-time expat position. It is anticipated that the plan for TD-019 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:
From the information provided in Box 8, Metabiota assumes that the unspecified CBEP-funded research projects are ongoing affairs led by third parties. In order to effectively ensure that an appropriate microbiology subject matter expert (microbiology SME, billed as a Visiting Scientist/VS) is available to provide the requested mentoring, the Metabiota PM and PC will, upon approval of the TD, continue to engage relevant DTRA CBEP and Lugar Center stakeholders to identify how, where, and when project status updates are communicated (for example, monthly teleconference, weekly email exchanges, etc.) and what the onboarding and daily requirements are for working at the Lugar Center. Upon approval and receipt of additional information, the Metabiota PM and PC will identify a VS and work to either onboard them as a Metabiota employee, or establish a subcontract or independent consulting arrangement with the VS. The Metabiota PM, PC, and VS will participate in project communications in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the VS to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO-Tbilisi.

Mentoring and Performance of Microbiological Research.
Mentoring will consist of in-country mentoring. Based on our understanding of the requirements, Metabiota does not expect to be required to provide primary microbiological analysis support to the various projects being conducted at the Lugar Center. The PM and PC will maintain regular communications with the VS to ensure that the VS has all required resources for mentoring. After assessing the need for microbiology mentoring, the VS will work with the PM, PC, and other appropriate stakeholders to develop mentoring work plans. The VS will then implement the mentoring work plans, only assisting with actual analyses and scientific writing when necessary

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN)
Table 1: Incremental funding requested for 16 May 2016 – 15 November 2016, per CLIN. Please note that labor rates have changed.

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$323,696.71
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$323,696.71**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES

Labor

Costs for direct labor to support this activity is required for the following personnel:

All phases:

Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

The Metabiota PM will additionally provide management oversight of the microbiology SME and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and any subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the microbiology SME, to include leading regular coordination calls with the microbiology SME, participating in regular communications between the project stakeholders and the microbiology SME, and coordinating with the microbiology SME to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline. The PC will aid the PM and VS in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the microbiology SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Visiting Scientist: The VS will serve as the microbiology SME. The VS will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project, the needs and expectations of the Georgian scientists, and the microbiological subject matter expertise needed. The VS will provide mentoring as directed by the respective project leads. The VS will be working full time on this effort.

Materials

No additional material procurements are anticipated on this effort, and thus no additional funds are being requested on this CLIN through the extended period of performance.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be applied for labor costs incurred overseas. Metabiota maintains a blanket DBA policy for all personnel and will add the VS and any other performers meeting DBA requirements to this policy as they are engaged. A reconciliation of the total DBA will be performed prior to final invoicing to ensure accuracy of the charges, in accordance with total hours worked. If necessary, final invoicing will be adjusted to reflect the final DBA allocation numbers. At this time, no additional funds are being requested for DBA, as the previously requested amount for CLIN 1004 should be sufficient to cover further DBA costs.

Travel

Travel is requested to support the deployment of the VS to Batumi, Georgia or other locations within Georgia as needs arise. At this time, no additional funds are being requested for travel, as the previously requested amount for CLIN 1005 should be sufficient to cover one additional trip. Travel on the AEP contract is cost reimbursable.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	323,696.71		
1003	MATERIALS	$	-		
1004	ODCs	$	-		
1005	TRAVEL	$	-		
	TOTAL	**$**	**323,696.71**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTR[redacted]E AND DATE
$ $323,696.71 11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV: $ $706,027.71	23-SEP-2015 – 15 MAY 2016 12b. TD REV PERIOD OF PERFORMANCE 15-MAY-2016 – 15-NOV-2016	(b)(6) Signatur[redacted] Date: 1 June 2016

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM/ Georgia	(b)(6)	(b)(6) X (b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	019	B

4. TD TITLE
On-site Expertise in Genomic Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) AIL (b)(6)

7. CONTRACTOR POC
NAM (b)(6)
PHO
EMA (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The purpose of this revision is to adjust funding on the CLINs detailed in Block 10 below.

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below

No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES)

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 700,549.35		
1003	MATERIALS	$ -		
1004	ODCs	$ 4 646.54		
1005	TRAVEL	$ 831.13		
	TOTAL	**$ 706,027.02**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$706,027.02**

12a. CURRENT PERIOD OF PERFORMANCE
15-MAY-2016 – 15-AUG-2016

12b. TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-AUG-2016

13. CONTRACTOR SIGNATURE AND DATE
Signature _____
Date:

14. REGION
EUCOM/ Georgia

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
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    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	019	B

4. TD TITLE
On-site Expertise in Genomic Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia

5. TOTAL TD ESTIMATE
HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHON (b)(6) EMA (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The purpose of this revision is to adjust funding on the CLINs detailed in Block 10 below.

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 700,549.35		
1003	MATERIALS	$ -		
1004	ODCs	$ 4,646.54		
1005	TRAVEL	$ 831.13		
	TOTAL	**$ 706,027.02**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$706,027.02**

12a. CURRENT PERIOD OF PERFORMANCE
15-MAY-2016 – 15-AUG-2016

12b. TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-AUG-2016

13. CONTRACTOR SIGNATURE AND DATE
Signature: (b)(6)
Date: **15 November 2016**

14. REGION
EUCOM/ Georgia

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
(b)(6)
X
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
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    b. TD Rev POP
13. Contractor: Sign & Date
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15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	21	

4. TD TITLE	5. TOTAL TD ESTIMATE:
Iraq Field Epidemiology Training Program (FETP) Support	HOURS: **5,750** DOLLARS: **$761,026**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME (b)(6)
PHONE (b)(6) EMAIL: (b)(6)	PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):
The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota in accordance with SOW, Section 4.1 Task 1, 4.3 Task 3, and 4.4 Task 4.

CBEP CENTCOM requests the implementation of the following projects in support of the Iraqi Field Epidemiology Training Program (FETP):

1. Integrated Biosafety and Security and Epidemiology Enhancement
This activity will enhance existing Iraqi capacities for the conduction of field epidemiology, standardization and implementation of biosafety and biosecurity practices, interdisciplinary biological incidence response, and improvement of high level stakeholder buy-in for continued interagency collaboration on topics related to natural or suspect biological incidences. This activity will be conducted through a 4-phase approach consisting of the following: Metabiota will coordinate with Iraqi FETP management (Dr. Farris) to identify up to 15 candidate "core" participants. These candidates will be shared with the CBEP Technical POC for review and approval. Phase 1 will include identifying "core" participants and conducting a 12 week remote/online mentorship and in-depth training program. Phase 1 Training program will include topics such as general security awareness, developing and maintaining a culture of safety and security, laboratory biosafety and biosecurity practices, biorisk management standard operating procedure (SOP) and plan development, personal protective equipment, one health and field epidemiology, passive and active disease surveillance, personnel qualification, suitability and reliability, area decon and biological emergency response, and effective communication and risk management. Phase 2 will consist of a 1 week in-country hands-on training course. Phase 3 will consist of an online 1 week introduction, training, and familiarization and review of the Iraq National Biological Emergency Response Plan (NBERP) with the core team plus 10-15 members of the emergency response, law enforcement, and security agencies. Phase 4 will include the development of a gap analysis report conducted by the top core and interagency team performers to communicate findings and establish buy-in from high-level stakeholders to ensure their continued support of interagency network development and cooperation. Additionally, this task will not require any travel by the contractor. The estimated labor categories that are needed to support this effort are: Program Manager (PM), Subject Matter Expert (SME) Level I, SME Level II, and Foreign Local National (FLN) support. The total estimated labor hours for this effort are 4,550 and the estimated cost for this effort is $580,154.00.

2. Epidemiology Training
This activity will enhance existing Iraqi capacities for the execution of field epidemiology. This activity will identify up to 15 participants from various Iraqi agencies to complete a 6 week remote/online mentorship and training program. Metabiota will coordinate with Iraqi FETP management (Dr. Farris) to identify candidate "core" participants. These candidates will be shared with the CBEP Technical POC for review and approval. Training program will include topics such as developing and maintaining a field epidemiology cohort, effective communication and interagency coordination, and risk management. Additionally, this task will not require any travel by the contractor. The estimated labor categories that are needed to support this effort are: PM, SME Level I, SME Level II, and FLN support. The total estimated labor hours for this effort are 1,200 and the estimated cost for this effort is $180,872.00.

CLS will provide logistics support as needed, and will be closely coordinated with the CBEP Technical Point of Contact.

The period of performance for this effort will be from 22 February 2016 to 15 May 2016. Your technical approach, proposed budget and basis of estimate for implementing this requirement is not to exceed $761,026 and is requested by 19 February 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation (Task 1):
Metabiota developed a project plan and implementation strategy that aligns with narrative from Box 8. It is anticipated that the plan for TD-022 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as a Subject Matter Expert 1)) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.
Key assumptions:

1. DTRA CBEP can and will assist in coordination and socialization with Iraq ministries and US Embassy, and will participate in the identification of appropriate Iraqi participants for all phases.
2. Metabiota assumes that the learning management system (LMS) does not need to meet DoD information security standards.
3. DTRA CBEP, through CLS or another party, can facilitate transport of Iraqi participants to a single, secure location for hands on training. (and gap analysis workshop?)
4. Metabiota-engaged FLNs will be able to access said location(s) during the appropriate times necessary to implement work.
5. Metabiota personnel providing guidance and support will **not** be the primary drafters of the gap analysis document.
6. Iraqi participants will have reliable access to the internet, with enough bandwidth to support videoconferencing.

Project Coordination (Task 1)
The Metabiota PM and PC will coordinate with th(b)(6) EVP Science Integration and the functional group leads for Biorisk Management, Epidemiology, and Veterinary Science to identify the appropriate SMEs in epidemiology and biosafety and biosecurity (BS&S) to develop and augment materials, and deliver a high quality and sustainable engagement in coordination with CBEP CENTCOM.

From the information provided in Box 8, Metabiota assumes that some type of field epidemiology training is already in existence in Iraq. In order to effectively ensure that our training materials align with existing efforts, the Metabiota PM and PC will, upon approval of the TD, enga(b)(6) and other relevant stakeholders, including DTRA CBEP, for additional information including existing training materials in both epidemiology and BS&S. The Metabiota PM, PC, and SMEs will participate in regular project communications with all stakeholders to ensure mutual understanding of goals, actions, and status. The Metabiota PM, PC, and SMEs will also participate in separate discussions with Dr. Farris to identify core participants.

The Metabiota PM and PC will work with the SMEs to ensure that all necessary documentation required prior to initiating tasks such as training is completed correctly and submitted on time, including Training Event Plan (CDRL A014) and CTR CLS Form (CDRL A016). Additionally, that all associated reports, including Monthly Reports (CDRL A001), Training Trip Report (CDRL A006), Post-Training Assessment (CDRL A015) are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured for FLNs if needed. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS via the CBEP Technical Point of Contact.

Training Material Development and Adaptation (Task 4)
Metabiota will ~~reuse~~ existing training materials from EIS, FETP, and other widely recognized training programs as much as possible. However, based on inputs fro(b)(6) nd given the need to conduct this training remotely, Metabiota expects to use SMEs to adapt training materials and case studies for effective remote delivery and to specifically address the environment in Iraq. Metabiota SMEs will develop new materials including slide presentations, videos, interactive quizzes, etc. to effectively leverage the online learning environment. Metabiota will also develop, as appropriate, pre-tests and post-tests for monitoring and evaluation purposes. Training materials, after development and adaptation, will be delivered to DTRA CBEP for technical review and Public Affairs approval. Several of Metabiota's personnel are EIS graduates and we expect to leverage their efforts for the epidemiology-related work. Metabiota personnel and those of our partners also have extensive BS&S and biorisk management experience, and we will leverage those personnel for the BS&S-related work.

Coordination for Training Material Translation (Task 1)
Translation of training materials, if determined to be necessary, will be handled via CLS per contractual direction. Metabiota PM and PC will deliver training materials and CLS form(s) to the CBEP Technical Point of Contact for appropriate routing.

Learning Management System Implementation
Metabiota will utilize a learning management system for the delivery of course materials. Metabiota FLNs will familiarize themselves with the LMS in order to be able to provide adequate locally-based support to the training participants. Metabiota SMEs, aided by the PC and FLNs, will create courses and upload training materials.

Remote Epidemiology and BS&S Training (Task 3)
Metabiota SMEs will execute 6-week training modules on epidemiology and BS&S. Metabiota expects each week to consist of 1-2 lecture sessions conducted via internet videoconferencing which will be recorded for those participants unable to participate live. These will be augmented by the online materials. Metabiota SMEs will be available for virtual "office hours" and to answer written communications from participants. Metabiota SMEs will also grade any assignments and provide feedback to the participants on their performance. FLNs will be used to facilitate any minor logistical needs during this period.

Hands-on Course (Task 3)
Metabiota SMEs and FLNs will execute a one-week hands-on course for the core participant group. This hands-on course will be designed to emphasize the key points of the remote epidemiology and BS&S trainings especially those which would benefit from practical exercises such as PPE donning and doffing. Metabiota expects to leverage CLS to provide the venue, simultaneous interpretation, and any other logistical needs.

NBERP Familiarization and Review (Task 4)
Metabiota SMEs will coordinate with in-country stakeholders including Iraqi institutions such as the National Biorisk Management Committee (NBMC), the Ministry of the Interior, and the Ministry of Health to conduct an initial review of the National Biological Emergency Response Plan (NBERP). Metabiota SMEs and in-country facilitators will then conduct a virtual introduction to the NBERP to familiarize key participants, consisting of the selected core team and 10-15 members of the emergency response, law enforcement, and security agencies of Iraq, with the NBERP process and more specifically, their role within that process over a span of one week. To do so, Metabiota SMEs will coordinate with the in-country stakeholders to identify key roles and responsibilities within the NBERP and overarching structure prior to participant outreach.

NBERP Gap Analysis and Virtual Workshop (Task 4)
The Metabiota team will coordinate with and provide guidance to the key participants familiarized above in conducting a gap assessment of the suitability and feasibility of the National Biological Emergency Response Plan (NBERP). Participants will be engaged throughout a three-week span and arranged into virtual working groups appropriate to their roles and responsibilities. Metabiota SMEs will monitor the Iraqi participants in the process, leading working groups and keeping the overall gap assessment on task and on schedule. At the end of the time period, Metabiota will facilitate a 5-day workshop for the participants to finalize the gap assessment, facilitated by an in-country implementing partner and CLS. The gap assessment will be a baseline for future work developing injects and other materials needed for a tabletop training exercise (TTX) testing the NBERP. As a result of the gap assessment, Metabiota will provide technical support and guidance in coordination with key Iraqi stakeholders to recommend changes and enhancements to the existing policies.

Epidemiology Training #2 (Task 1, Task 3, Task 4)
The Metabiota PM, PC, and SMEs will participate in discussions wit(b)(6) to identify a second cohort of participants for the epidemiology module of the remote training. The Metabiota SMEs will further modify epidemiology training materials taking into consideration that the second cohort of participants will not be afforded the chance to participate in a hands-on course to reinforce their knowledge and skills. After the materials have been modified and uploaded to the LMS and the participants identified, the Metabiota SMEs will execute the 6-week training module.

Project Closeout (Task 1)
Metabiota PM, PC, and SMEs will all contribute inputs to a final report documenting the projects. The report will include lessons learned and an after-action report detailing enhancements that could be made should this type of project be repeated, either in Iraq or in other CBEP-engaged countries. Training records will also be provided to DTRA CBEP. Additionally, at the end of the period of performance, the LMS will be transitioned to DTRA CBEP for their use and maintenance.

Monitoring and Evaluation
As part of the remote trainings and the hands-on course, Metabiota intends to administer tests to evaluate knowledge and skill levels both prior to and immediately following trainings. However, Metabiota recognizes that post-tests occurring during the period of performance will only measure short term retention. As an additional value to the client, Metabiota intends to develop and provide to CBEP post-tests which can be conducted at six month, 1 year, and 2 year intervals after training completion. Metabiota will administer the evaluations if requested by CBEP.

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the attached Risk Management Matrix. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the attached Risk Management Matrix. (Risk Management Matrix: Attachment A)

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$709,821
1003	MATERIALS	$29,089
1004	ODCs	$2,593
1005	TRAVEL	$0
TOTAL		**$741,503.09**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES.:

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Task 1 - Project Coordination: Metabiota will provide consistent and cohesive technical and administrative leadership, direction, program management, implementation oversight, and coordination of all project activities.

Metabiota Program Manager (PM): The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of DTRA CBEP goals at the country and regional level in direct support of this activity and the CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the SME I to ensure all day-to-day activities for the project are completed on time, and to the quality required by CBEP.

Metabiota Project Coordinator A SME I will act as a Project Coordinator (PC) throughout the planning and execution of project objectives. The PC will lead the planning and execution of CBEP objectives towards the completion of project goals by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will manage the SMEs, to include leading regular coordination calls with the SMEs and participating in regular communications between the trainees.

To ensure the project in managed according to CBEP standards, the PM and PC will be responsible for the following:
Initiation and Program Integration: The PM, with PC support, will assist in the development of the project proposal to include the project timeline, and identification and integration of project requirements, deliverables, subcontractors, SMEs, and trainers to ensure project success. Upon acceptance of the proposal, the PM will hold a kick-off meeting with team members and partners to review the project plan and schedule, establish routine communication to support project implementation, initiate education on the contract requirements, and begin project implementation. Routine communication with all stakeholders will ensure that all deliverables, including required CDRLs, are met and submitted according to the project schedule and contract requirements.

The PM and PC will work closely with Dr. Farris to identify and select appropriate participants for the training course, ensuring they meet standards for inclusion, and are vetted according to CBEP protocols. In addition, the PM and PC will coordinate all aspects of training implementation, to include identification and appropriate engagement of FLNs, to include a Training Coordinator, to support in-country training, act as the day-to-day manager of identified FLNs, and interface regularly with project personnel to ensure that in-country training requirements are met. The PM will ensure that FLNs are contracted with, engaged according to contract and project requirements, and have the background and skills necessary to support training implementation. FLNs are being billed at the CENTCOM FLN III rate due to the difficulty of finding personnel and hazard of working in Iraq.

The PM will ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.
Communications Management: To support routine communication on the project critical to successful execution of the project, the PM and PC will establish bi-weekly project calls with all key stakeholders, to include the CBEP POC, subcontractors, in-country FLNs, SMEs, and others identified as critical to support this training during key phases identified in the project proposal. This will serve to ensure understanding of project requirements and to identify project risk at the forefront, in order to implement mitigation strategies throughout the project lifecycle, ensuring overall success. The PM will also lead communication efforts with DTRA CBEP for this activity, guaranteeing that all aspects of the project are being managed in direct coordination and communication with key team members. The PC will provide support to the PM by coordinating day-to-day activities and maintaining and scheduling routine communications, ensuring that stakeholders are provided routine visibility on the project through in-person and virtual meetings, calls, weekly reports, and updates.
Time and Cost Management: The PM and PC will ensure time and cost management and routine receipt of project reports, invoices, and other needs to support project efforts. The PM and PC will also ensure that all project deliverables are submitted on time and to the quality required for this engagement. This will include coordination, development and submission of the following contract CDRLs associated with this project: CDRL A001 Monthly Report, A006 Training Trip Report, A011 Transfer of Materials, A014 Training Event Plan, A015 Post Training Assessment, A016 CTR logistics form, and A017 Meeting Agenda and Report. All CDRLs will be developed and submitted according to the contract requirements, and assigned timelines.

Stakeholder Management: The PM will oversee the identification, development and execution of subcontracting requirements for this project. This will include identifying the necessary subcontractors, developing the subcontractor package jointly with the Metabiota contracts office, educating identified subcontractors on T&M contract requirements, and ensuring invoicing and deliverables meet contract standards. The PM will oversee all work performed by the subcontractor throughout the project and will close out the subcontract following completion of work performed in support of this effort. The PM will participate in identifying necessary subcontractors/independent consultants, and initiate their engagement through contract development and execution.

Procurement and Logistics Management: The PM and PC will coordinate with CLS for all travel, logistics, translation, and training requirements in country. Utilizing CDRL A016 the CTR logistics form, PM will submit all requirements directly to CBEP and once approved, PC will coordinate directly with CLS team members to ensure all shipping and logistics requirements are met according to timeline. PC will work jointly with CLS personnel to develop and submit required BOMs, and move supplies through the customs clearance process in conjunction with the DTRO. PM/PC will coordinate all logistics requirements with CLS and, once approved by CBEP, will remain in direct communication with CLS team members to ensure on-the-ground logistics are executed according to project scope and requirements

Quality Management: The Project Coordination team will work closely with Metabiota SMEs to ensure that all training materials and deliverables submitted and utilized on the project meet CBEP's requirements. In addition, SMEs will be responsible for QA/QCing training materials and working directly with engaged FLNs to ensure the training is performed at FETP international standards. All work of internal SMEs, FLNs, and partners will undergo peer review by Metabiota functional group leaders to ensure high quality is maintained.

Human Resources Management: To further build out the project team, the PM and PC will work closely with Metabiota's scientific bench to identify and integrate internal SMEs to this project. The PM will oversee and coordinate their efforts on the project in support of adapting and developing training materials, remotely executing the training course, and providing M&E to ensure information learned is retained and applied at home organizations. The PM will ensure that SMEs are coordinating directly with other project team members, performing required duties, and PM will track overall LOE according to budget and project requirements for all team personnel.

Close out: The PM and PC will oversee project closeout, to include wrap-up of training, finalization of deliverables, final reports, and transfer of materials. The PM will also ensure the conclusion of subcontracts and other employment agreements.

Task 4 - Subject Matter Experts (SMEs): Metabiota will provide ongoing technical support and expertise through the use of SMEs, to include the development and evaluation of training methods and materials, and to support the implementation of trainings. Metabiota SMEs engaged for this effort will provide expertise and input on the development and revision of existing training materials. They will take part in identifying and engaging trainees in conjunction with the project coordination team (b)(6) and the CBEP CM, and ensuring that the cohort selected includes a cross-section of agencies critical to this engagement with the basic skills necessary to successfully complete and implement training components at home institutions. SMEs will implement the training courses and will work in partnership with FLN trainers to administer the courses, provide QA/QC of all materials, engage trainees in capacity building and scientific discussions supporting training concepts and implementation, and assist in the development of a gap analysis report. SMEs on this effort will be performing the functions of both SMEs and Qualified Trainers (QTs). In line with government guidance, the SMEs will be billing at the SME I or SME II labor rate, which is the equivalent cost of QT I and IIs. Metabiota has identified internal SMEs that will be a part of this effort. Metabiota will subcontract Watermark Risk Management International, LLC for additional SME support on this effort. Additionally, Research and Data Analyst (RDA) hours have been allotted to assist SMEs in development and adaptation of training materials and course delivery.

Reachback programmatic support to include finance, accounting, and contracts, will be provided as part of CLIN 1001 (FFP) and will not be separately invoiced.

Materials

Training Materials: Epidemiology textbooks will be procured and distributed to trainers and participants to support the Field Epidemiology Training Program (FETP). This will include supporting the 6-week field epidemiology training course, as well as epidemiology components of the Integrated BS&S and Epidemiology Enhancement course. Risk Management Texts and other published training materials identified by SMEs will be procured and distributed to trainers and participants to support required components of the training courses. All textbooks and published materials will be in English, and will be procured by Metabiota and shipped via CLS or a third-country shipper per contract requirements. If materials can be secured and provided to the trainers/trainees online, shipping will not be required. Metabiota will endeavor to use the LMS for all course materials, ensuring cost savings to the government where possible. SMEs will be engaged to determine the appropriate textbooks, and training materials required to meet course needs.

Personal protective equipment such as Tyvek suits, gloves, goggles, booties, and N95 respirators will be procured for training purposes. Additionally, consumables and other paraphernalia such as chlorine, plastic wash basins, buckets, disinfectant sprayers, and anti-fog spray will also be procured.

USB internet devices and internet access cards will be procured and provided to trainers/trainees in-country to ensure they have access to a stable internet connection during all remote training sessions. USB internet devices will be procured and tested in-country to avoid shipping charges and to ensure they are operational on the ground. USB internet devices and access cards will be monitored by the FLNs to ensure they are used for training purposes only, and are maintained according to equipment/material guidelines for the duration of the course.

General office supplies will be procured to support in-country training activities and routine project needs for the execution of the training courses. Office supplies will be procured locally and will include, but may not be limited to, pens, paper, thumb drives, binders, etc.

Metabiota will conduct market research and ensure the best price is secured, maintaining quality and technical requirements for all procurement of goods. Metabiota will coordinate directly with CLS and third-country vendors for all shipping requirements, and will work closely with CLS and DTRO to ensure customs clearance requirements are met and goods delivered according to project timelines and CDRL requirements. Metabiota will ensure cost management for all procured supplies and will coordinate directly with CBEP and CLS to support additional requirements for the hands-on training events to include such items as printing of the developed and adapted training materials, training certificates for participants, and translation services, if needed.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project working abroad. DBA insurance will be applied for labor costs incurred overseas. As no travel is authorized for this project, DBA will only be applied to FLNs, or other contractors, engaged on this effort, for the duration of the program. Metabiota maintains a blanket DBA policy for all personnel and will add the FLNs, and other performers meeting DBA requirements, to this policy as they are engaged. A (b)(6) of their total compensation will be billed to the project on a monthly

basis. A reconciliation of the total DBA will be performed prior to final invoicing to ensure accuracy of the charges, in accordance with total hours worked. Final invoicing will be adjusted, if necessary, to reflect the final DBA allocation numbers.

Subcontracts

Subcontracts will be issued to SMEs, FLNs, and/or their home organization(s) as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the labor or materials budgets.

Travel

Travel is not requested to support this effort according to the project scope, as all requirements will be executed remotely, and will rely on FLNs for in-person training needs. Metabiota assumes that we will be able to identify a FLN in all locations in Iraq where trainees are identified.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$709,821	2/24/2016	5/15/2016
1003	MATERIALS	$29,089	2/24/2016	5/15/2016
1004	ODCs	$2,593	2/24/2016	5/15/2016
1005	TRAVEL	$0	2/24/2016	5/15/2016
	TOTAL	**$741,503.09**	2/24/2016	5/15/2016

COMMENTS (OPTIONAL):

Labor funding will include a combination of U.S. and U.K. lines of accounting. Invoicing for Labor costs to implement this TD should first be against the U.K. funding.

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $741,503.09

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $741,503.09

12a. CURRENT PERIOD OF PERFORMANCE

24-Feb-2016 – 15-May-2016

12b. TD REV PERIOD OF PERFORMANCE

24-Feb-2016 – 15-May-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature _____

Date: . . . . . .

14. REGION

CENTCOM / Iraq

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X _____

(b)(6)

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	21	

4. TD TITLE	5. TOTAL TD ESTIMATE:
Iraq Field Epidemiology Training Program (FETP) Support	HOURS: **5,750** DOLLARS: **$761,026**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)	PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota in accordance with SOW, Section 4.1 Task 1, 4.3 Task 3, and 4.4 Task 4.

CBEP CENTCOM requests the implementation of the following projects in support of the Iraqi Field Epidemiology Training Program (FETP):

1. Integrated Biosafety and Security and Epidemiology Enhancement

This activity will enhance existing Iraqi capacities for the conduction of field epidemiology, standardization and implementation of biosafety and biosecurity practices, interdisciplinary biological incidence response, and improvement of high level stakeholder buy-in for continued interagency collaboration on topics related to natural or suspect biological incidences. This activity will be conducted through a 4-phase approach consisting of the following: Metabiota will coordinate with Iraqi FETP management (b)(6) to identify up to 15 candidate "core" participants. These candidates will be shared with the CBEP Technical POC for review and approval. Phase 1 will include identifying "core" participants and conducting a 12 week remote/online mentorship and in-depth training program. Phase 1 Training program will include topics such as general security awareness, developing and maintaining a culture of safety and security, laboratory biosafety and biosecurity practices, biorisk management standard operating procedure (SOP) and plan development, personal protective equipment, one health and field epidemiology, passive and active disease surveillance, personnel qualification, suitability and reliability, area decon and biological emergency response, and effective communication and risk management. Phase 2 will consist of a 1 week in-country hands-on training course. Phase 3 will consist of an online 1 week introduction, training, and familiarization and review of the Iraq National Biological Emergency Response Plan (NBERP) with the core team plus 10-15 members of the emergency response, law enforcement, and security agencies. Phase 4 will include the development of a gap analysis report conducted by the top core and interagency team performers to communicate findings and establish buy-in from high-level stakeholders to ensure their continued support of interagency network development and cooperation. Additionally, this task will not require any travel by the contractor. The estimated labor categories that are needed to support this effort are: Program Manager (PM), Subject Matter Expert (SME) Level I, SME Level II, and Foreign Local National (FLN) support. The total estimated labor hours for this effort are 4,550 and the estimated cost for this effort is $580,154.00.

2. Epidemiology Training

This activity will enhance existing Iraqi capacities for the execution of field epidemiology. This activity will identify up to 15 participants from various Iraqi agencies to complete a 6 week remote/online mentorship and training program. Metabiota will coordinate with Iraqi FETP management (b)(6) to identify candidate "core" participants. These candidates will be shared with the CBEP Technical POC for review and approval. Training program will include topics such as developing and maintaining a field epidemiology cohort, effective communication and interagency coordination, and risk management. Additionally, this task will not require any travel by the contractor. The estimated labor categories that are needed to support this effort are: PM, SME Level I, SME Level II, and FLN support. The total estimated labor hours for this effort are 1,200 and the estimated cost for this effort is $180,872.00.

CLS will provide logistics support as needed, and will be closely coordinated with the CBEP Technical Point of Contact.

The period of performance for this effort will be from 22 February 2016 to 15 May 2016. Your technical approach, proposed budget and basis of estimate for implementing this requirement is not to exceed $761,026 and is requested by 19 February 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation (Task 1):

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Key assumptions:

1. DTRA CBEP can and will assist in coordination and socialization with Iraq ministries and US Embassy, and will participate in the identification of appropriate Iraqi participants for all phases.
2. Metabiota assumes that the learning management system (LMS) does not need to meet DoD information security standards.
3. DTRA CBEP, through CLS or another party, can facilitate transport of Iraqi participants to a single, secure location for hands on training. (and gap analysis workshop?)
4. Metabiota-engaged FLNs will be able to access said location(s) during the appropriate times necessary to implement work.
5. Metabiota personnel providing guidance and support will **not** be the primary drafters of the gap analysis document.
6. Iraqi participants will have reliable access to the internet, with enough bandwidth to support videoconferencing.

Project Coordination (Task 1)
The Metabiota PM and PC will coordinate with th(b)(6) EVP Science Integration and the functional group leads for Biorisk Management, Epidemiology, and Veterinary Science to identify the appropriate SMEs in epidemiology and biosafety and biosecurity (BS&S) to develop and augment materials, and deliver a high quality and sustainable engagement in coordination with CBEP CENTCOM.

From the information provided in Box 8, Metabiota assumes that some type of field epidemiology training is already in existence in Iraq. In order to effectively ensure that our training materials align with existing efforts, the Metabiota PM and PC will, upon approval of the TD, engag(b)(6) and other relevant stakeholders, including DTRA CBEP, for additional information including existing training materials in both epidemiology and BS&S. The Metabiota PM, PC, and SMEs will participate in regular project communications with all stakeholders to ensure mutual understanding of goals, actions, and status. The Metabiota PM, PC, and SMEs will also participate in separate discussions with(b)(6) o identify core participants.

The Metabiota PM and PC will work with the SMEs to ensure that all necessary documentation required prior to initiating tasks such as training is completed correctly and submitted on time, including Training Event Plan (CDRL A014) and CTR CLS Form (CDRL A016). Additionally, that all associated reports, including Monthly Reports (CDRL A001), Training Trip Report (CDRL A006), Post-Training Assessment (CDRL A015) are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured for FLNs if needed. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS via the CBEP Technical Point of Contact.

Training Material Development and Adaptation (Task 4)
Metabiota will reuse existing training materials from EIS, FETP, and other widely recognized training programs as much as possible. However, based on inputs fro(b)(6) nd given the need to conduct this training remotely, Metabiota expects to use SMEs to adapt training materials and case studies for effective remote delivery and to specifically address the environment in Iraq. Metabiota SMEs will develop new materials including slide presentations, videos, interactive quizzes, etc. to effectively leverage the online learning environment. Metabiota will also develop, as appropriate, pre-tests and post-tests for monitoring and evaluation purposes. Training materials, after development and adaptation, will be delivered to DTRA CBEP for technical review and Public Affairs approval. Several of Metabiota's personnel are EIS graduates and we expect to leverage their efforts for the epidemiology-related work. Metabiota personnel and those of our partners also have extensive BS&S and biorisk management experience, and we will leverage those personnel for the BS&S-related work.

Coordination for Training Material Translation (Task 1)
Translation of training materials, if determined to be necessary, will be handled via CLS per contractual direction. Metabiota PM and PC will deliver training materials and CLS form(s) to the CBEP Technical Point of Contact for appropriate routing.

Learning Management System Implementation
Metabiota will utilize a learning management system for the delivery of course materials. Metabiota FLNs will familiarize themselves with the LMS in order to be able to provide adequate locally-based support to the training participants. Metabiota SMEs, aided by the PC and FLNs, will create courses and upload training materials.

Remote Epidemiology and BS&S Training (Task 3)
Metabiota SMEs will execute 6-week training modules on epidemiology and BS&S. Metabiota expects each week to consist of 1-2 lecture sessions conducted via internet videoconferencing which will be recorded for those participants unable to participate live. These will be augmented by the online materials. Metabiota SMEs will be available for virtual "office hours" and to answer written communications from participants. Metabiota SMEs will also grade any assignments and provide feedback to the participants on their performance. FLNs will be used to facilitate any minor logistical needs during this period.

Hands-on Course (Task 3)
Metabiota SMEs and FLNs will execute a one-week hands-on course for the core participant group. This hands-on course will be designed to emphasize the key points of the remote epidemiology and BS&S trainings especially those which would benefit from practical exercises such as PPE donning and doffing. Metabiota expects to leverage CLS to provide the venue, simultaneous interpretation, and any other logistical needs.

NBERP Familiarization and Review (Task 4)
Metabiota SMEs will coordinate with in-country stakeholders including Iraqi institutions such as the National Biorisk Management Committee (NBMC), the Ministry of the Interior, and the Ministry of Health to conduct an initial review of the National Biological Emergency Response Plan (NBERP). Metabiota SMEs and in-country facilitators will then conduct a virtual introduction to the NBERP to familiarize key participants, consisting of the selected core team and 10-15 members of the emergency response, law enforcement, and security agencies of Iraq, with the NBERP process and more specifically, their role within that process over a span of one week. To do so, Metabiota SMEs will coordinate with the in-country stakeholders to identify key roles and responsibilities within the NBERP and overarching structure prior to participant outreach.

NBERP Gap Analysis and Virtual Workshop (Task 4)
The Metabiota team will coordinate with and provide guidance to the key participants familiarized above in conducting a gap assessment of the suitability and feasibility of the National Biological Emergency Response Plan (NBERP). Participants will be engaged throughout a three-week span and arranged into virtual working groups appropriate to their roles and responsibilities. Metabiota SMEs will monitor the Iraqi participants in the process, leading working groups and keeping the overall gap assessment on task and on schedule. At the end of the time period, Metabiota will facilitate a 5-day workshop for the participants to finalize the gap assessment, facilitated by an in-country implementing partner and CLS. The gap assessment will be a baseline for future work developing injects and other materials needed for a tabletop training exercise (TTX) testing the NBERP. As a result of the gap assessment, Metabiota will provide technical support and guidance in coordination with key Iraqi stakeholders to recommend changes and enhancements to the existing policies.

Epidemiology Training #2 (Task 1, Task 3, Task 4)
The Metabiota PM, PC, and SMEs will participate in discussions wit(b)(6) to identify a second cohort of participants for the epidemiology module of the remote training. The Metabiota SMEs will further modify epidemiology training materials taking into consideration that the second cohort of participants will not be afforded the chance to participate in a hands-on course to reinforce their knowledge and skills. After the materials have been modified and uploaded to the LMS and the participants identified, the Metabiota SMEs will execute the 6-week training module.

Project Closeout (Task 1)
Metabiota PM, PC, and SMEs will all contribute inputs to a final report documenting the projects. The report will include lessons learned and an after-action report detailing enhancements that could be made should this type of project be repeated, either in Iraq or in other CBEP-engaged countries. Training records will also be provided to DTRA CBEP. Additionally, at the end of the period of performance, the LMS will be transitioned to DTRA CBEP for their use and maintenance.

Monitoring and Evaluation
As part of the remote trainings and the hands-on course, Metabiota intends to administer tests to evaluate knowledge and skill levels both prior to and immediately following trainings. However, Metabiota recognizes that post-tests occurring during the period of performance will only measure short term retention. As an additional value to the client, Metabiota intends to develop and provide to CBEP post-tests which can be conducted at six month, 1 year, and 2 year intervals after training completion. Metabiota will administer the evaluations if requested by CBEP.

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the attached Risk Management Matrix. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the attached Risk Management Matrix. (Risk Management Matrix: Attachment A)

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$709,821
1003	MATERIALS	$29,089
1004	ODCs	$2,593
1005	TRAVEL	$0
TOTAL		**$741,503.09**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES .

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Task 1 - Project Coordination: Metabiota will provide consistent and cohesive technical and administrative leadership, direction, program management, implementation oversight, and coordination of all project activities.

Metabiota Program Manager (PM): The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of DTRA CBEP goals at the country and regional level in direct support of this activity and the CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the SME I to ensure all day-to-day activities for the project are completed on time, and to the quality required by CBEP.

Metabiota Project Coordinator: A SME I will act as a Project Coordinator (PC) throughout the planning and execution of project objectives. The PC will lead the planning and execution of CBEP objectives towards the completion of project goals by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will manage the SMEs, to include leading regular coordination calls with the SMEs and participating in regular communications between the trainees.

To ensure the project in managed according to CBEP standards, the PM and PC will be responsible for the following:
Initiation and Program Integration: The PM, with PC support, will assist in the development of the project proposal to include the project timeline, and identification and integration of project requirements, deliverables, subcontractors, SMEs, and trainers to ensure project success. Upon acceptance of the proposal, the PM will hold a kick-off meeting with team members and partners to review the project plan and schedule, establish routine communication to support project implementation, initiate education on the contract requirements, and begin project implementation. Routine communication with all stakeholders will ensure that all deliverables, including required CDRLs, are met and submitted according to the project schedule and contract requirements.

The PM and PC will work closely with (b)(6) to identify and select appropriate participants for the training course, ensuring they meet standards for inclusion, and are vetted according to CBEP protocols. In addition, the PM and PC will coordinate all aspects of training implementation, to include identification and appropriate engagement of FLNs, to include a Training Coordinator, to support in-country training, act as the day-to-day manager of identified FLNs, and interface regularly with project personnel to ensure that in-country training requirements are met. The PM will ensure that FLNs are contracted with, engaged according to contract and project requirements, and have the background and skills necessary to support training implementation. FLNs are being billed at the CENTCOM FLN III rate due to the difficulty of finding personnel and hazard of working in Iraq.

The PM will ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.
Communications Management: To support routine communication on the project critical to successful execution of the project, the PM and PC will establish bi-weekly project calls with all key stakeholders, to include the CBEP POC, subcontractors, in-country FLNs, SMEs, and others identified as critical to support this training during key phases identified in the project proposal. This will serve to ensure understanding of project requirements and to identify project risk at the forefront, in order to implement mitigation strategies throughout the project lifecycle, ensuring overall success. The PM will also lead communication efforts with DTRA CBEP for this activity, guaranteeing that all aspects of the project are being managed in direct coordination and communication with key team members. The PC will provide support to the PM by coordinating day-to-day activities and maintaining and scheduling routine communications, ensuring that stakeholders are provided routine visibility on the project through in-person and virtual meetings, calls, weekly reports, and updates.
Time and Cost Management: The PM and PC will ensure time and cost management and routine receipt of project reports, invoices, and other needs to support project efforts. The PM and PC will also ensure that all project deliverables are submitted on time and to the quality required for this engagement. This will include coordination, development and submission of the following contract CDRLs associated with this project: CDRL A001 Monthly Report, A006 Training Trip Report, A011 Transfer of Materials, A014 Training Event Plan, A015 Post Training Assessment, A016 CTR logistics form, and A017 Meeting Agenda and Report. All CDRLs will be developed and submitted according to the contract requirements, and assigned timelines.

Stakeholder Management: The PM will oversee the identification, development and execution of subcontracting requirements for this project. This will include identifying the necessary subcontractors, developing the subcontractor package jointly with the Metabiota contracts office, educating identified subcontractors on T&M contract requirements, and ensuring invoicing and deliverables meet contract standards. The PM will oversee all work performed by the subcontractor throughout the project and will close out the subcontract following completion of work performed in support of this effort. The PM will participate in identifying necessary subcontractors/ ndependent consultants, and initiate their engagement through contract development and execution.

Procurement and Logistics Management: The PM and PC will coordinate with CLS for all travel, logistics, translation, and training requirements in country. Utilizing CDRL A016 the CTR logistics form, PM will submit all requirements directly to CBEP and once approved, PC will coordinate directly with CLS team members to ensure all shipping and logistics requirements are met according to timeline. PC will work jointly with CLS personnel to develop and submit required BOMs, and move supplies through the customs clearance process in conjunction with the DTRO. PM/PC will coordinate all logistics requirements with CLS and, once approved by CBEP, will remain in direct communication with CLS team members to ensure on-the-ground logistics are executed according to project scope and requirements

Quality Management: The Project Coordination team will work closely with Metabiota SMEs to ensure that all training materials and deliverables submitted and utilized on the project meet CBEP's requirements. In addition, SMEs will be responsible for QA/QCing training materials and working directly with engaged FLNs to ensure the training is performed at FETP international standards. All work of internal SMEs, FLNs, and partners will undergo peer review by Metabiota functional group leaders to ensure high quality is maintained.

Human Resources Management: To further build out the project team, the PM and PC will work closely with Metabiota's scientific bench to identify and integrate internal SMEs to this project. The PM will oversee and coordinate their efforts on the project in support of adapting and developing training materials, remotely executing the training course, and providing M&E to ensure information learned is retained and applied at home organizations. The PM will ensure that SMEs are coordinating directly with other project team members, performing required duties, and PM will track overall LOE according to budget and project requirements for all team personnel.

Close out: The PM and PC will oversee project closeout, to include wrap-up of training, finalization of deliverables, final reports, and transfer of materials. The PM will also ensure the conclusion of subcontracts and other employment agreements.

Task 4 - Subject Matter Experts (SMEs): Metabiota will provide ongoing technical support and expertise through the use of SMEs, to include the development and evaluation of training methods and materials, and to support the implementation of trainings. Metabiota SMEs engaged for this effort will provide expertise and input on the development and revision of existing training materials. They will take part in identifying and engaging trainees in conjunction with the project coordination team, (b)(6) and the CBEP CM, and ensuring that the cohort selected includes a cross-section of agencies critical to this engagement with the basic skills necessary to successfully complete and implement training components at home institutions. SMEs will implement the training courses and will work in partnership with FLN trainers to administer the courses, provide QA/QC of all materials, engage trainees in capacity building and scientific discussions supporting training concepts and implementation, and assist in the development of a gap analysis report. SMEs on this effort will be performing the functions of both SMEs and Qualified Trainers (QTs). In line with government guidance, the SMEs will be billing at the SME I or SME II labor rate, which is the equivalent cost of QT I and IIs. Metabiota has identified internal SMEs that will be a part of this effort. Metabiota will subcontract Watermark Risk Management International, LLC for additional SME support on this effort. Additionally, Research and Data Analyst (RDA) hours have been allotted to assist SMEs in development and adaptation of training materials and course delivery.

Reachback programmatic support to include finance, accounting, and contracts, will be provided as part of CLIN 1001 (FFP) and will not be separately invoiced.

Materials

Training Materials: Epidemiology textbooks will be procured and distributed to trainers and participants to support the Field Epidemiology Training Program (FETP). This will include supporting the 6-week field epidemiology training course, as well as epidemiology components of the Integrated BS&S and Epidemiology Enhancement course. Risk Management Texts and other published training materials identified by SMEs will be procured and distributed to trainers and participants to support required components of the training courses. All textbooks and published materials will be in English, and will be procured by Metabiota and shipped via CLS or a third-country shipper per contract requirements. If materials can be secured and provided to the trainers/trainees online, shipping will not be required. Metabiota will endeavor to use the LMS for all course materials, ensuring cost savings to the government where possible. SMEs will be engaged to determine the appropriate textbooks, and training materials required to meet course needs.

Personal protective equipment such as Tyvek suits, gloves, goggles, booties, and N95 respirators will be procured for training purposes. Additionally, consumables and other paraphernalia such as chlorine, plastic wash basins, buckets, disinfectant sprayers, and anti-fog spray will also be procured.

USB internet devices and internet access cards will be procured and provided to trainers/trainees in-country to ensure they have access to a stable internet connection during all remote training sessions. USB internet devices will be procured and tested in-country to avoid shipping charges and to ensure they are operational on the ground. USB internet devices and access cards will be monitored by the FLNs to ensure they are used for training purposes only, and are maintained according to equipment/material guidelines for the duration of the course.

General office supplies will be procured to support in-country training activities and routine project needs for the execution of the training courses. Office supplies will be procured locally and will include, but may not be limited to, pens, paper, thumb drives, binders, etc.

Metabiota will conduct market research and ensure the best price is secured, maintaining quality and technical requirements for all procurement of goods. Metabiota will coordinate directly with CLS and third-country vendors for all shipping requirements, and will work closely with CLS and DTRO to ensure customs clearance requirements are met and goods delivered according to project timelines and CDRL requirements. Metabiota will ensure cost management for all procured supplies and will coordinate directly with CBEP and CLS to support additional requirements for the hands-on training events to include such items as printing of the developed and adapted training materials, training certificates for participants, and translation services, if needed.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project working abroad. DBA insurance will be applied for labor costs incurred overseas. As no travel is authorized for this project, DBA will only be applied to FLNs, or other contractors, engaged on this effort, for the duration of the program. Metabiota maintains a blanket DBA policy for all personnel and will add the FLNs, and other performers meeting DBA requirements, to this policy as they are engaged (b)(6) of their total compensation will be billed to the project on a monthly

basis. A reconciliation of the total DBA will be performed prior to final invoicing to ensure accuracy of the charges, in accordance with total hours worked. Final invoicing will be adjusted, if necessary, to reflect the final DBA allocation numbers.

Subcontracts

Subcontracts will be issued to SMEs, FLNs, and/or their home organization(s) as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the labor or materials budgets.

Travel

Travel is not requested to support this effort according to the project scope, as all requirements will be executed remotely, and will rely on FLNs for in-person training needs. Metabiota assumes that we will be able to identify a FLN in all locations in Iraq where trainees are identified.

10. FUNDING AUTHORIZED THIS TD REV.

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$709,821	2/24/2016	5/15/2016
1003	MATERIALS	$29,089	2/24/2016	5/15/2016
1004	ODCs	$2,593	2/24/2016	5/15/2016
1005	TRAVEL	$0	2/24/2016	5/15/2016
	TOTAL	**$741,503.09**	2/24/2016	5/15/2016

COMMENTS (OPTIONAL):

Labor funding will include a combination of U.S. and U.K. lines of accounting. Invoicing for Labor costs to implement this TD should first be against the U.K. funding.

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ **$741,503.09**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$741,503.09**

12a. CURRENT PERIOD OF PERFORMANCE

24-Feb-2016 – 15-May-2016

12b. TD REV PERIOD OF PERFORMANCE

24-Feb-2016 – 15-May-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature: (b)(6)

Date: **25 February 2016**

14. REGION

CENTCOM / Iraq

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

(b)(6)

(b)(6)

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	021	A

4. TD TITLE

Iraq Field Epidemiology Training Program (FETP) Support

5. TOTAL TD ESTIMATE:

HOURS: 5,750 DOLLARS: $ **$761,026**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHONE (b)(6) MAIL (b)(6)

7. CONTRACTOR POC

NAME: (b)(6)

PHONE: EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-021 from 15 May 2016 to 15 November 2016 at no additional cost. This PoP extension is to provide enough time to continue providing field epidemiology training support in Iraq. Metabota should coordinate directly with the Technical POCs identified below. No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV.

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$761,026**

12a. CURRENT PERIOD OF PERFORMANCE

24-FEB-2016 – 15 MAY 2016

12b. TO REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature: (b)(6)

Date: **13 May 2016**

14. REGION

CENTCOM/ Iraq

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X (b)(6)

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	021	B

4. TD TITLE	5. TOTAL TD ESTIMATE.
Iraq Field Epidemiology Training Program (FETP) Support	HOURS: ___0___ DOLLARS: $ ___$0___

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE).

This revision modifies the original technical directive by scaling back the requirements outlined in Block 8, Phase 4 of Task 1: Integrated Biosafety and Security and Epidemiology Enhancement within the original TD-021 at no additional cost.

The revised language for Task 1, Phase 4 is as follows

Phase 4 will include the development of a gap analysis and recommendation report conducted by Metabiota subject matter experts and Iraqi technical experts nominated by the Iraqi National Monitoring Authority (INMA). Metabiota will work collaboratively with the Iraqi technical experts to understand the NBERP, identify gaps, and develop recommendations to improve the plan. Metabiota will present a summary of the gap analysis and recommendations to the National Biorisk Management Committee on September 8, 2016, via video teleconference from Sandia National Laboratories in Albuquerque, New Mexico. The presentation will be made in collaborat on with the INMA technical expert, and include a question and answer period. Should Metabiota encounter schedule delays in working with the Iraqi technical experts that preclude the possibility of finalizing, translating, and clearing a presentation in time for NBMC, then Metabiota will provide a verbal summary at NBMC, followed by a written report submitted to DTRA prior to the end of the contract. Additionally, this task will not require any international travel by the contractor. The estimated labor categories that are needed to support this effort are: Program Manager (PM), Subject Matter Expert (SME) Level I, SME Level II, and Foreign Local National (FLN) support.

Your revised technical approach, budget and basis of estimate for implementing this modification are requested by 26 July 2016.

No further changes to the previously approved proposal are required at th s time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation (Task 1):
Metabiota developed a project plan and implementation strategy that aligns with narrative from Box 8. It is anticipated that the plan for TD-021 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as a Subject Matter Expert 1)) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.
Key assumptions:

1. The Iraqi participants identified for all phases are capable of speaking, reading, and writing English, including technical concepts.
2. DTRA CBEP can and will assist in coordination and socialization with Iraq ministries and US Embassy, and will participate in the identification of appropriate Iraqi participants for all phases.
3. Metabiota assumes that the learning management system (LMS) does not need to meet DoD information security standards.
4. DTRA CBEP, through CLS or another party, can facilitate transport of Iraqi participants to a single, secure location for hands on training.
5. DTRA CBEP or other USG entity will bear the cost of providing security for said location(s) and all participants during that time period.
6. Metabiota-engaged FLNs will be able to access said location(s) during the appropriate times necessary to implement work.
7. Metabiota personnel providing guidance and support will **not** be the primary drafters of the gap analysis document.
8. Iraqi participants will have reliable access to the internet, with enough bandwidth to support videoconferencing.

Project Coordination (Task 1)
The Metabiota PM(s) and PC will coordinate with the Dr. Mary Guttieri, EVP Science Integration and the functional group leads for Biorisk Management, Epidemiology, and Veterinary Science to identify the appropriate SMEs in epidemiology and biosafety and biosecurity (BS&S) to develop and augment materials, and deliver a high quality and sustainable engagement in coordination with CBEP CENTCOM.

From the information provided in Box 8, Metabiota assumes that some type of field epidemiology training is already in existence in Iraq. In order to effectively ensure that our training materials align with existing efforts, the Metabiota PM(s) and PC will, upon approval of the TD, engag (b)(6) and other relevant stakeholders, including DTRA CBEP, for additional information including existing training materials in both epidemiology and BS&S. The Metabiota PM(s), PC, and SMEs will participate in regular project communications with all stakeholders to ensure mutual understanding of goals, actions, and status. The Metabiota PM, PC, and SMEs will also participate in separate discussions with (b)(6) to identify core participants.

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Coordination for Training Material Translation (Task 1)
Translation of training materials, if determined to be necessary, will be handled via CLS per contractual direction. Metabiota PM(s) and PC will deliver training materials and CLS form(s) to the CBEP Technical Point of Contact for appropriate routing.

Learning Management System Implementation
Metabiota will utilize a learning management system for the delivery of course materials. Metabiota FLNs will familiarize themselves with the LMS in order to be able to provide adequate locally-based support to the training participants. Metabiota SMEs, aided by the PC and FLNs, will create courses and upload training materials.

Remote Epidemiology and BS&S Training (Task 3)
Metabiota SMEs will execute 6-week training modules on epidemiology and BS&S. Metabiota expects each week to consist of 1-2 lecture sessions conducted via internet videoconferencing which will be recorded for those participants unable to participate live. These will be augmented by the online materials. Metabiota SMEs will be available for virtual "office hours" and to answer written communications from participants. Metabiota SMEs will also grade any assignments and provide feedback to the participants on their performance. FLNs will be used to facilitate any minor logistical needs during this period.

Hands-on Course (Task 3)
Metabiota SMEs and FLNs will execute a one-week hands-on course for the core participant group. This hands-on course will be designed to emphasize the key points of the remote epidemiology and BS&S trainings, especially those which would benefit from practical exercises such as PPE donning and doffing. Metabiota expects to leverage CLS to provide the venue, simultaneous interpretation, and any other logistical needs.

NBEP Gap Analysis and Virtual Workshop (Task 4)
The Metabiota team will work with Iraqi stakeholders/SMEs to conduct a gap analysis of the National Biological Emergency Plan (NBEP). Metabiota expects to use a mix of effort from epidemiology, biosafety, biosecurity, biorisk management, and emergency response SMEs to conduct this gap analysis. Metabiota will work with the Iraqi stakeholders to obtain the latest version of the NBEP. Together, Metabiota and the Iraqi stakeholders (collectively, "the analysis team") will then develop an operational plan for conducting the analysis and drafting a report and presentation. Metabiota SMEs, in conjunction with the Iraqi stakeholders, will then examine the NBEP to identify gaps and critical strategic junctures in the plan, and also to identify potential modes of failure. The analysis team will further devise recommendations to potentially address and/or test any identified gaps and modes of failure. The analysis team will prepare a short presentation on their findings to be presented at the National Biorisk Management Committee meeting in Albuquerque, New Mexico.

Epidemiology Training #2 (Task 1, Task 3, Task 4)
The Metabiota PM, PC, and SMEs will participate in discussions with (b)(6) to identify a second cohort of participants for the epidemiology module of the remote training. The Metabiota SMEs will further modify epide[illegible]ining materials taking into consideration that the second cohort of participants will not be afforded the chance to participate in a hands-on course to reinforce their knowledge and skills. After the materials have been modified and uploaded to the LMS and the participants identified, the Metabiota SMEs will execute the 6-week training module.

Project Closeout (Task 1)
Metabiota PM, PC, and SMEs will all contribute inputs to a final report documenting the projects. The report will include lessons learned and an after-action report detailing enhancements that could be made should this type of project be repeated, either in Iraq or in other CBEP-engaged countries. Training records will also be provided to DTRA CBEP. Additionally, at the end of the period of performance, the LMS will be transitioned to DTRA CBEP for their use and maintenance.

Monitoring and Evaluation
As part of the remote trainings and the hands-on course, Metabiota intends to administer tests to evaluate knowledge and skill levels both prior to and immediately following trainings. However, Metabiota recognizes that post-tests occurring during the period of performance will only measure short term retention. As an additional value to the client, Metabiota intends to develop and provide to CBEP post-tests which can be conducted at six month, 1 year, and 2 year intervals after training completion. Metabiota will administer the evaluations if requested by CBEP.

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the attached Risk Management Matrix.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$711,773
1003	MATERIALS	$26,260
1004	ODCs	$4,535
1005	TRAVEL	$4,595
TOTAL		**$747,163**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES)

The basis of estimate for the TD has been revised and updated to account for a realignment in costs, as well as a request for travel funding to support presentation of the NBEP gap analysis at the NBMC.

Labor

Costs for direct labor to support this activity is required for the following personnel:

All phases:

Task 1 - Project Coordination: Metabiota will provide consistent and cohesive technical and administrative leadership, direction, program management, implementation oversight, and coordination of all project activities.

Metabiota Program Manager(s) (PM): The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of DTRA CBEP goals at the country and regional level in direct support of this activity and the CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the SME I to ensure all day-to-day activities for the project are completed on time, and to the quality required by CBEP

Metabiota Project Coordinator: A SME I will act as a Project Coordinator (PC) throughout the planning and execution of project objectives. The PC will lead the planning and execution of CBEP objectives towards the completion of project goals by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will manage the SMEs, to include leading regular coordination calls with the SMEs and participating in regular communications between the trainees.

To ensure the project in managed according to CBEP standards, the PM and PC will be responsible for the following:

Initiation and Program Integration: The PM, with PC support, will assist in the development of the project proposal to include the project timeline, and identification and integration of project requirements, deliverables, subcontractors, SMEs, and trainers to ensure project success. Upon acceptance of the proposal, the PM will hold a kick-off meeting with team members and partners to review the project plan and schedule, establish routine communication to support project implementation, initiate education on the contract requirements, and begin project implementation. Routine communication with all stakeholders will ensure that all deliverables, including required CDRLs, are met and submitted according to the project schedule and contract requirements.

The PM and PC will work closely with (b)(6) to identify and select appropriate participants for the training course, ensuring they meet standards for inclusion, and are vetted according to CBEP protocols. In addition, the PM and PC will coordinate all aspects of training implementation, to include identification and appropriate engagement of FLNs, to include a Training Coordinator, to support in-country training, act as the day-to-day manager of identified FLNs, and interface regularly with project personnel to ensure that in-country training requirements are met. The PM will ensure that FLNs are contracted with, engaged according to contract and project requirements, and have the background and skills necessary to support training implementation. FLNs are being billed at the CENTCOM FLN III rate due to the difficulty of finding personnel and hazard of working in Iraq.

The PM will ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Communications Management: To support routine communication on the project critical to successful execution of the project, the PM and PC will establish bi-weekly project calls with all key stakeholders, to include the CBEP POC, subcontractors, in-country FLNs, SMEs, and others identified as critical to support this training during key phases identified in the project proposal. This will serve to ensure understanding of project requirements and to identify project risk at the forefront, in order to implement mitigation strategies throughout the project lifecycle, ensuring overall success. The PM will also lead communication efforts with DTRA CBEP for this activity, guaranteeing that all aspects of the project are being managed in direct coordination and communication with key team members. The PC will provide support to the PM by coordinating day-to-day activities and maintaining and scheduling routine communications, ensuring that stakeholders are provided routine visibility on the project through in-person and virtual meetings, calls, weekly reports, and updates.

Time and Cost Management: The PM and PC will ensure time and cost management and routine receipt of project reports, invoices, and other needs to support project efforts. The PM and PC will also ensure that all project deliverables are submitted on time and to the quality required for this engagement. This will include coordination, development and submission of the following contract CDRLs associated with this project: CDRL A001 Monthly Report, A006 Training Trip Report, A011 Transfer of Materials, A014 Training Event Plan, A015 Post Training Assessment, A016 CTR logistics form, and A017 Meeting Agenda and Report. All CDRLs will be developed and submitted according to the contract requirements, and assigned timelines.

Stakeholder Management: The PM will oversee the identification, development and execution of subcontracting requirements for this project. This will include identifying the necessary subcontractors, developing the subcontractor package jointly with the Metabiota contracts office, educating identified subcontractors on T&M contract requirements, and ensuring invoicing and deliverables meet contract standards. The PM will oversee all work performed by the subcontractor throughout the project and will close out the subcontract following completion of work performed in support of this effort. The PM will participate in identifying necessary subcontractors/ ndependent consultants, and initiate their engagement through contract development and execution.

Procurement and Logistics Management: The PM and PC will coordinate with CLS for all travel, logistics, translation, and training requirements in country. Utilizing CDRL A016 the CTR logistics form, PM will submit all requirements directly to CBEP and once approved, PC will coordinate directly with CLS team members to ensure all shipping and logistics requirements are met according to timeline. PC will work jointly with CLS personnel to develop and submit required BOMs, and move supplies through the customs clearance process in conjunction with the DTRO. PM/PC will coordinate all logistics requirements with CLS and, once approved by CBEP, will remain in direct communication with CLS team members to ensure on-the-ground logistics are executed according to project scope and requirements.

Quality Management: The Project Coordination team will work closely with Metabiota SMEs to ensure that all training materials and deliverables submitted and utilized on the project meet CBEP's requirements. In addition, SMEs will be responsible for QA/QCing training materials and working directly with engaged FLNs to ensure the training is performed at FETP international standards. All work of internal SMEs, FLNs, and partners will undergo peer review by Metabiota functional group leaders to ensure high quality is maintained.

Human Resources Management: To further build out the project team, the PM and PC will work closely with Metabiota's scientific bench to identify

and integrate internal SMEs to this project. The PM will oversee and coordinate their efforts on the project in support of adapting and developing training materials, remotely executing the training course, and providing M&E to ensure information learned is retained and applied at home organizations. The PM will ensure that SMEs are coordinating directly with other project team members, performing required duties, and PM will track overall LOE according to budget and project requirements for all team personnel.
Close out: The PM and PC will oversee project closeout, to include wrap-up of training, finalization of deliverables, final reports, and transfer of materials. The PM will also ensure the conclusion of subcontracts and other employment agreements.

Task 4 - Subject Matter Experts (SMEs): Metabiota will provide ongoing technical support and expertise through the use of SMEs, to include the development and evaluation of training methods and materials, and to support the implementation of trainings. Metabiota SMEs engaged for this effort will provide expertise and input on the development and revision of existing training materials. They will take part in identifying and engaging trainees in conjunction with the project coordination team (b)(6) and the CBEP CM, and ensuring that the cohort selected includes FETP graduates and current residents, critical to this engagement with the basic skills necessary to successfully complete and implement training components at home institutions. SMEs will implement the training courses and will work in partnership with FLN trainers to administer the courses, provide QA/QC of all materials, engage trainees in capacity building and scientific discussions supporting training concepts and implementation, and assist in the development of a gap analysis report. SMEs on this effort will be performing the functions of both SMEs and Qualified Trainers (QTs). In line with government guidance, the SMEs will be billing at the SME I or SME II labor rate, which is the equivalent cost of QT I and IIs. Metabiota has identified internal SMEs that will be a part of this effort. Metabiota will subcontract Watermark Risk Management International, LLC for additional SME support on this effort. Additionally, Research and Data Analyst (RDA) hours have been allotted to assist SMEs in development and adaptation of training materials and course delivery. In addition, RDA hours will be utilized to support delivery of the hands-on course, ensure course approvals, credit hours, and smooth facilitation of course implementation.

Reachback programmatic support to include finance, accounting, and contracts, will be provided as part of CLIN 1001 (FFP) and will not be separately invoiced. In addition, reachback support will be provided by Metabiota science team members skilled in the fields of epidemiology and BS&S, at no cost to the government, to review developed training materials and course requirements.

Labor hours have been realigned, within the total ceiling of the TD approved costs, to account for shifts in labor and costing requirements as the project has been further defined and requirements have shifted in scheduling, material development, and gap analysis change of scope.

Materials
Training Materials: Epidemiology textbooks will be procured and distributed to trainers and participants to support the Field Epidemiology Training Program (FETP). This will include supporting the 6-week field epidemiology training course, as well as epidemiology components of the Integrated BS&S and Epidemiology Enhancement course. Risk Management Texts and other published training materials identified by SMEs will be procured and distributed to trainers and participants to support required components of the training courses. All textbooks and published materials will be in English, and will be procured by Metabiota and shipped via CLS or a third-country shipper per contract requirements. If materials can be secured and provided to the trainers/trainees online, shipping will not be required. Metabiota will endeavor to use the LMS for all course materials, ensuring cost savings to the government where possible. SMEs will be engaged to determine the appropriate textbooks, and training materials required to meet course needs.

Personal protective equipment such as Tyvek suits, gloves, goggles, booties, and N95 respirators will be procured for training purposes. Additionally, consumables and other paraphernalia such as chlorine, plastic wash basins, buckets, disinfectant sprayers, and anti-fog spray will also be procured.

USB internet devices and internet access cards will be procured and provided to trainers/trainees in-country to ensure they have access to a stable internet connection during all remote training sessions. USB internet devices will be procured and tested in-country to avoid shipping charges and to ensure they are operational on the ground. USB internet devices and access cards will be monitored by the FLNs to ensure they are used for training purposes only, and are maintained according to equipment/material guidelines for the duration of the course.

General office supplies will be procured to support in-country training activities and routine project needs for the execution of the training courses. Office supplies will be procured locally and will include, but may not be limited to, pens, paper, thumb drives, binders, etc.

Metabiota will conduct market research and ensure the best price is secured, maintaining quality and technical requirements for all procurement of goods. Metabiota will coordinate directly with CLS and third-country vendors for all shipping requirements, and will work closely with CLS and DTRO to ensure customs clearance requirements are met and goods delivered according to project timelines and CDRL requirements. Metabiota will ensure cost management for all procured supplies and will coordinate directly with CBEP and CLS to support additional requirements for the hands-on training events to include such items as printing of the developed and adapted training materials, training certificates for participants, and translation services, if needed.

As identification of materials and supplies has progressed and costing proposals received from vendors supporting this effort, Metabiota has realigned costs accordingly to reflect received proposals and confirmed project needs. For example, all materials for the hands-on course will be procured in-country changing the estimated costs for materials from originally projected US-based purchasing. Materials will be procured locally to ensure project schedule is maintained, and to alleviate project delays that could occur due to extended customs clearance requirements. In addition, costs have been reduced, where possible, to reflect the procurement of text book materials through online sources versus hardback procurement. Lastly, it is anticipated that the majority of trainees will have a stable internet connection and that procurement of USB devices and internet access cards will be reduced.

Other Direct Costs
Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project working abroad. DBA insurance will be applied for labor costs incurred overseas. As no travel is authorized for this project, DBA will only be applied to FLNs, or other contractors, engaged on this effort, for the duration of the program. Metabiota maintains a blanket DBA policy for all personnel and will add the FLNs, and other performers meeting DBA requirements, to this policy as they are engaged. A rate of 3.5% of their total compensation will be billed to the project on a monthly basis. A reconciliation of the total DBA will be performed prior to final invoicing to ensure accuracy of the charges, in accordance with total hours worked. Final invoicing will be adjusted, if necessary, to reflect the final DBA allocation numbers.

Due to an increased number of FLNs engaged on the project, to include (b)(6) epidemiology trainee (b)(6) and URC trainers and project personnel, DBA insurance was realigned to reflect anticipated LOE by all foreign nationals performing on this project. As stated above, DBA

reconciliation will be performed at invoice close out to ensure accuracy of billing and rates according to actual hours worked on the project.

Subcontracts

Subcontracts to support this effort were approved and issued to Watermark Risk International, LLC for support in the BS&S training component, as well as URC for the engagement of FLNs to support the hands-on training component of this course, as well as local procurement of all materials and supplies needed for the hands-on course. Labor and material costs required to facilitate the engagement are captured under the respective budgets.

Travel

Foreign travel is not requested to support this effort, as all requirements will be executed remotely via a learning management system and online training platform. The hands-on course will be executed using in-country FLNs for in-person support and will be remotely supported by Metabiota SMEs.

Domestic travel is requested to support this effort for the presentation of the NBEP gap analysis at the NBMC in Albuquerque, NM in September. Per discussions with the CBEP project team, and as mentioned in the Box 8, our SME's will travel to Sandia National Laboratories to present our findings via video teleconference to NBMC. Travel costs are requested, in accordance with USG travel regulations, for (3) BS&S trainers, as well as Metabiota Program Manager (b)(6) Travel costs include RT airfare, hotel, ground transportation, and per diem for a two-night stay to jointly deliver the presentation.

10. FUNDING AUTHORIZED THIS TD REV.

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	711,773.47		
1003	MATERIALS	$	26,260.23		
1004	ODCs	$	4,534.90		
1005	TRAVEL	$	4,594.75		
	TOTAL	**$**	**747,163.35**		

COMMENTS (OPTIONAL)

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $747,163.35

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $747,163.35

12a. CURRENT PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

12b. TD REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

(b)(6)

Signatu

Date: 8 August 2016

14. REGION

CENTCOM/ Iraq

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

(b)(6)

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact Details
8. Description of the Technical Directive Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	021	D

4. TD TITLE	5. TOTAL TD ESTIMATE
Iraq Field Epidemiology Training Program (FETP) Support	HOURS: 5,750 DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE (b)(6) MAIL (b)(6)	PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The purpose of this revision is to adjust funding on the CLINs detailed in Block 10 below.

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below

No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES)

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN)

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES)

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 807,912.00		
1003	MATERIALS	$ 24,056.50		
1004	ODCs	$ 4,219.99		
1005	TRAVEL	$ 2,940.84		
	TOTAL	**$ 839,129.33**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONT
$ **$0**	**24-FEB-2016 – 15 MAY 2016**	(b)(6) Signature
11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV	12b. TD REV PERIOD OF PERFORMANCE	Date: **15 November 2016**
$ **$839,129.33**	**15-MAY-2016 – 15-NOV-2016**	

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
CENTCOM/ Iraq	(b)(6)	(b)(6) X (b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3. TD NUMBER
HDTRA1-14-C-0104	METABIOTA	22

4. TD TITLE	5. TOTAL TD ESTIMATE
Uganda Biosurveillance and Grantsmanship Training	HOURS: 3,234 DOLLARS: $ 170,000.00

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE: (b)(6) EMAI (b)(6)	PHONE (b)(6) EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide grantsmanship training and subject matter expert (SME) assistance for the coordination of project design, research proposal development, and implementation of a pilot biosurveillance study in Uganda, in accordance with SOW section 4.4, 4.5 and 4.6. Tasks 4, 5 and 6.

Coordination of such efforts shall focus on the following topics: Ecological and bio-surveillance for Rift Valley fever (RVF) among domestic and wild animal populations in Uganda; Exploring the distribution and characteristics of avian influenza (AI) viruses in migratory waterfowl and poultry in Uganda; and Genetic and epidemiological insights into the occurrence of peste des petits ruminants virus (PPRV) among sheep, goats, cattle, and wildlife in northern Uganda.

The project design and research proposal(s) to be coordinated by Metabiota shall emphasize bio-surveillance of RVF, PPRV, and AI in Uganda and how the collection of this data would help enhance the surveillance capabilities of the country at the national level. It shall also include assistance in the development of standard operating procedures (SOPs) for the projects (e.g., biosafety/biosecurity, sample collection/handling/transport, laboratory analysis, data analysis) with the goal of enhancing local capabilities and developing the skills necessary for the early detection and prevalence determination of RVF, AI, and PPR. Metabiota will perform the following activities during the period of performance:

1. Phase One: Metabiota shall collaborate with CBEP's Ugandan research partners and coordinate with them to develop a work plan for implementation of all of the activities noted below, including project design (development of a research plan) and development of a high-quality, competitive research proposal or proposals (more details below). Metabiota should provide a PM and a SME1 to manage this coordination. The SME1 and PM should reach out directly to the POCs listed below to discuss their vision for the development of a research grant and to discuss additional SME support needed. Ugandan partners on this project are SMEs in various areas and their skills/expertise should be leveraged in accomplishing the goals of this project. The Metabiota PM and SME1 should also review the concept notes already developed by the collaborators that describe their research interests. The SME1 hours required for this should not exceed 25 hours total for maximum 3-5 weeks of coordination. PM oversight should not exceed 25 hours total for this phase.

   Ugandan collaborators should include personnel from the following institutions/organizations:
   a. The National Animal Disease Diagnostics and Epidemiology Centre (NADDEC). POC (b)(6) (b)(6)
   b. The National Livestock Resources Research Institute (NaLIRRI). POC (b)(6) (b)(6)
   c. The African Field Epidemiology Network (AFENET). POC (b)(6)
   d. The Ministry of Health, Division of Veterinary Public Health (MoH-DVPH). POC (b)(6) (b)(6)
   e. The Uganda Wildlife Authority. POC (b)(6)
   f. CDC- POC (b)(6)
   g. The Ministry of Health, Uganda Virus Research Institute (MoH-UVRI). POC (b)(6) (b)(6)
   h. Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) (b)(6) (b)(6)

   Phase One deliverables: Work plan with project design and timeline with clear roles and responsibilities

2. Phase Two: Metabiota shall assist the collaborators identified in Phase 1 with the development of a detailed research plan (experimental design) and research proposal(s), including budget, for epidemiologic studies/bio-surveillance research of RVF, AI, and PPR in Uganda based on the needs and research interests of the identified collaborators. These needs are already described in three concept notes developed by the Ugandan collaborators. The determination of whether one joint proposal or separate proposals will be developed will be made in partnership with Ugandan collaborators. The research plan shall include comprehensive descriptions of the hypothesis and research questions; development of a list of materials

and supplies to accomplish the research studies; and SOPs planned for the collection of samples, including field, laboratory, and data analytics, as well as a discussion of biosafety and biosecurity risks and mitigations (e.g. infectious sample transport and handling). CBEP expectation is for Metabiota to provide the collaborators with SME support (Metabiota and Ugandan SMEs) to inform the development of the proposal(s) that the Ugandan collaborators will write. Metabiota is not expected to write the grant proposal, but to provide oversight regarding the development of hypotheses, research design, and the research proposal writing process. The concept notes are well-developed, but will need to be strengthened to provide additional detail on sample size calculations, sample analysis procedures, data analysis methods, and other specifics to make them competitive research proposals. Metabiota should support the Ugandan collaborators in exploring potential funding options, not only DTRA, and assist them in tailoring their proposal(s) to specific funding opportunities.

To complete this task, Metabiota should provide up to 3 SMEs, including 1-2 from Metabiota and one Ugandan non-governmental SME (i.e. AFENET). Each SME should spend no more than 60 hours total over a maximum of 6 weeks to provide input/feedback and grantsmanship expertise to the research plan (experimental design) and the research proposal(s) developed by the Ugandan collaborators. PM oversight of the SMEs' review and coordination of activities should not exceed 30 hours total for Phase Two.

Phase Two deliverables: Project proposal(s) with budgets and SOPs

3. Phase Three: After completion of activities described in Phase 2, Metabiota shall also provide technical expertise to train stakeholders and work with them to conduct small pilot studies in Uganda to test the SOPs developed for the larger surveillance studies in the proposal(s) to determine their effectiveness and the viability of the project design on a smaller scale. Metabiota shall provide no more than 5 medium-level trainers to assist in the pilot studies. Trainers may be a mix of Metabiota and Ugandan trainers or mostly/all Ugandan trainers, which would be viewed as a strong approach to enhance sustainability of CBEP's investment. The training should consist of one in-country activity as well as continued coordination via email, phone, webinar, or a similar lower-cost communication/coordination mechanism throughout the pilot study period.

   Phase Three, Part One: Preparation and coordination in advance of the in-country training and pilot studies should take no more than 6 weeks, and may begin during Phase Two to maximize efficiency, especially for the definition of the scope and timelines for the pilot studies and the procurement of materials needed for the pilot studies. Coordination will be between Metabiota and all the POCs listed above, as well as identified SMEs/trainers, if different from the above. Training materials should be discussed and obtained during this phase. The training materials will be developed from the project proposal and SOP documents, existing training materials owned/obtained by the Ugandan collaborators, and additional supplemental material as needed. If Metabiota and Ugandan collaborators agree that some necessary training materials do not already exist and need to be developed, the team may work together to augment existing materials. A PM, SME1, and a maximum of 5 medium-level trainers would be an appropriate mix to accomplish the efforts in this phase. Trainers should have expertise in the Ugandan public health, veterinary, and wildlife systems as well as local research methods and processes. Not all people need to participate in all tasks at all times during this planning and coordination, and resources should be conserved to include only the necessary individuals at each step. SME1 hours during Phase Three, Part One should not exceed 40 hours; 55 hours if training materials need to be developed. Hours per trainer for preparation and coordination should not exceed 10 hours; 25 hours if they need to participate in development of training materials. PM hours dedicated to oversight of this planning and preparation should not exceed 30 hours.

   Phase Three, Part Two: The in-country training shall be conducted over a period of 10 working days (5 days per week for 2 separate weeks and should include no more than 20 trainees, to be identified by the Ugandan collaborators, across the 3 pilot studies). The training may be conducted as one comprehensive event, providing overarching skills, knowledge and guidance in a way that it will benefit all three projects; or it may be divided into sections for more focused training on the individual projects; or it may be a combination, with some parts together and some break-out or working group sessions that are more specific. Metabiota should collaborate with the Ugandan POCs and trainers to determine the best approach. The PM, SME1 and trainers' time should not exceed 10 hours per day of training. One day before or after the training for in-person coordination for the pilot studies would be appropriate and should not exceed 8 hours of labor each for the PM, SME1, trainers, and pilot study project leads. It would be acceptable for the trainers and pilot study project leads to be the same people in some cases, as appropriate. PM level of effort should be less than the SME1 given oversight vs. implementation role.

   Phase Three, Part Three: Metabiota will provide management oversight and support to the Ugandan partners in implementation of three pilot field studies. The Ugandan collaborators are in the process of receiving appropriate permits and sample collection can only commence following DTRA Research Oversight Board (ROB) approvals. This activity shall include the procurement of materials and supplies required for the pilot studies, not to exceed $100,000. Metabiota shall work with the Ugandan partners to identify the most efficient, cost-effective way to

procure materials and supplies. Pilot study project leads and field technicians' level of effort should not exceed 680 hours over 8 weeks for pilot study implementation and oversight. There should be no more than 3 pilot study project leads and 11 technicians total supported by Metabiota for all three pilot studies. PM and SME1 hours dedicated to pilot study implementation guidance and oversight should not exceed 60 hours over 8 weeks. PM level of effort should be less than the SME1 given oversight vs. technical SME support role.

The following information and study objectives are provided for reference for proposal development (longer term objectives) and pilot study design/implementation (shorter term objectives). The concept notes developed by the Ugandan collaborators are attached for more detail. The pilot studies should focus on validating the SOPs developed as part of the longer-term study design and proposal development in Phase 2, and on conducting sample collection, lab analysis, and data analysis on a small subset of the various animal populations noted below.

Study 1 - The portion of the project regarding ecological and biosurveillance for Rift Valley Fever (RVF) among domestic and wild animal populations in Uganda shall address the following objectives:

a. Determine the inter-epidemic seroprevalence of RVF in a sample population of relevant domestic animals and wildlife in study areas with clearly identified serotypes. Training in this area should establish better methods for the biosurveillance of epizootic and zoonotic diseases in Uganda.
b. Create/improve contingency plans for RVF outbreaks ready for implementation at the central and local district levels through collaboration with a Ugandan government representative specializing in disease prevention and control as well as outbreak containment in Uganda.

Study 2 - The portion of the project focused on exploring the distribution and characteristics of avian influenza viruses (AIVs) in migratory waterfowl and poultry in Uganda shall include these specific objectives:

a. Establish temporal and spatial distribution and prevalence of AIVs in a sample population of waterfowl and domestic poultry in Uganda.

Study 3 - The portion of the project regarding the genetic and epidemiological insights into the occurrence of peste des petits ruminants virus (PPRV) among sheep, goats, and cattle in northern Uganda shall include these objectives:

a. Determine the prevalence of PPRV in wild animal species in the Kidepo Valley National Park and in goats, sheep, and cattle in Nakapiripirit district of Uganda.
b. Use of RT-PCR to detect the presence of PPRV and competitive ELISA to determine the presence of specific PPRV antibodies.
c. Development of a questionnaire to obtain data on existing control measures, livestock movement patterns, PPRV vaccination practices and prevalence, and other relevant epidemiological and surveillance factors.

For the pilot studies, an appropriate scope would include the following:

Study 1 - Pilot study will include no more than 1,000 serum samples collected from 768 domestic animals (cattle, sheep and goat) and 232 wild animal ruminant and porcine species. Laboratory analysis will be limited to serology (ELISA). Data analysis will include determination of RVF antibody seroprevalence. ELISA will be conducted at the CDC lab at UVRI with participation as appropriate by relevant project collaborators.

Study 2 - Pilot study will include no more than 1,000 serum samples collected from two distinct locations with measurably high levels of interface between the wild birds, domestic poultry, and humans. Samples should be collected from approximately 590 domestic poultry and 410 wild poultry, split evenly between both locations. Laboratory analysis will be limited to ELISA for Influenza A viruses and PCR-based molecular analyses, both to be conducted at NADDEC.

Study 3 - Pilot study will include no more than 1,000 serum samples collected each from two distinct locations. The samples should be from approximately 232 cattle and 768 sheep or goats split evenly between the two locations. Development and piloting a questionnaire to assess PPRV risk factors such as vaccination practices, livestock movement and PPRV control measures will be part of the study. Laboratory analysis will be limited to serological and molecular techniques and data analysis will include determination of PPRV antibody seroprevalence and risk factors for PPRV. ELISA and PPR will be conducted at NADDEC. Metabiota shall not pay for Ugandan government collaborators' time for activities completed as part of their normal job/position and role within their institution. Time shall not be paid to government collaborators for Phase One or Phase Two. Ugandan government collaborators can be compensated for time if they are included as trainers, pilot study project leads, and field technicians for Phase Three. AFENET is not a government organization. CDC will not be compensated for time related to this project. All other POCs listed above are Ugandan government collaborators.

Travel costs for Ugandan participants related to the training event and field studies should only include ground transport, lodging, and per diem costs for participants working a distance of greater than one hour travel time from their home, and any requested ground transport, lodging, or per diem payments shall be cleared with CBEP prior to making commitments to cover these costs. Local participants in the training and field work (living one hour or less from the location of their work that day) will not have travel, lodging, or per diem costs covered.

Phase Three deliverables: Pilot studies implemented: PCR and ELISA results provided to CBEP; results and analyses developed into a pilot project summary of conclusions per project and provided to CBEP; and summary of conclusions provided to the Ugandan national authorities for disease surveillance and control.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES)

Phase 0: Proposal Development & Initiation (Task 1: March 7-9, 2016)

Metabiota developed a project plan and implementation strategy that aligns with narrative from Box 8. It is anticipated that the plan for TD-022 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as a Research and Data Analyst (RDA)) time to identify the optimal strategy, including required deliverables and other programmatic requirements, which may be a part of project implementation.

The Metabiota PM and PC coordinated with (b)(6), Metabiota's Executive Vice President (EVP) in charge of Science Integration and communication with our regional scientific networks to identify the appropriate SMEs in grantsmanship, experimental design, and biosurveillance to develop and augment project work plans and training materials. Ultimately, this measure was taken to ensure our technical and cost solutions were of the highest quality and sustainable, respectively.

Key assumptions:

1. Metabiota received unofficial communication supporting an extension of its contract from May 16, 2016 to November 15, 2016, this technical response has been developed with the key assumption that this additional time will be allotted to this project.
2. Metabiota assumes DTRA CBEP representatives will provide Metabiota with the concept notes referred to in Box 8 upon the approval of this TD.
3. Metabiota assumes that DTRA CBEP representatives involved in the development of this technical direction will be available for a kick-off meeting to discuss any associated historical engagement with the research collaborators and their respective needs and constraints.
4. Metabiota assumes changes to the budget (e.g., labor categories) will be acceptable to DTRA. An RDA was added to provide flexibility when implementing; however, this has not affected the overall project budget.
5. Metabiota assumes our response should align with narrative from Box 8, which does not align with the figures provided in Box 5.
6. Metabiota assumes that there will be a need to develop training materials during phase 3 part 1 in preparation for phase 3 part 2, and has incorporated the necessary LOE into this technical proposal.
7. Metabiota recognizes guidelines regarding compensation of Ugandan government personnel, as outlined in the Ambassador's memo (8 April 2015). Metabiota has developed a basis of estimate that plans for the highest cost scenario (e.g., no Ugandan government personnel). Upon receiving names and affiliations of all project participants, Metabiota will work with DTRA CBEP to adjust the basis of estimate accordingly.

Phase 1: Work Plan Development (Task 1: March 21-April 22, 2016)

Upon approval of the TD, Metabiota will engage DTRA CBEP to ensure a mutual understanding of project goals and objectives is realized, as well as to obtain the concept notes referred to in Box 8. Metabiota will additionally engage with the eight Ugandan collaborators provided in Box 8 as well as other key stakeholders to obtain additional information such as possible existing work plans, research plans, and training materials for grantsmanship and standard operating procedures for related biosurveillance activities. The Metabiota PM, PC, and SMEs will participate in regular project communications with stakeholders to ensure mutual understanding of project goals, actions, and status.

Metabiota SMEs will conduct a review of the concept notes referred to in Box 8 to establish a baseline for outreach to the identified Ugandan stakeholders. Metabiota will then conduct a series of data calls with these Ugandan stakeholders in order for the SMEs familiarize themselves with the current capabilities and needs of the identified stakeholders, and to identify an appropriate path forward for the work plan. This work plan will identify a timeline of implementation and key milestones and goals for both the development of a detailed research plan (from which, Pilot training and design study will be extracted), as well as development of research proposals (ex. number of proposal submissions, drafts of white papers, etc.). The work plan will include activities providing grantsmanship support, mentorship, and subject matter expertise to key Ugandan stakeholders throughout proposal development, Pilot training and study design and verification, and proposal editing and submission process. Metabiota will submit the work plan draft(s) to DTRA CBEP for review and approval.

Phase 2: Research Plan and Proposal Development (Tasks 1, 4: April 25-June 24, 2016)

Metabiota SMEs will execute the work plan as approved by DTRA CBEP in Phase 1. In doing so, Metabiota will coordinate with the identified Ugandan stakeholders to support the development of a detailed research plan as well as research proposals for epidemiologic studies/bio-surveillance research of RVF, AI, and PPR based on the needs and research interests identified in Phase 1.

Metabiota SMEs will provide support to the Ugandan stakeholders to develop a comprehensive research plan, which will include a detailed list of materials and supplies needed to accomplish the research studies. Moreover, the research plan will include detailed SOPs planned for the collection of samples, including field, laboratory, and data analytics as well as identification of biosafety and biosecurity risks and associated mitigation methods. From this overarching research plan, the Metabiota SMEs and Ugandan stakeholders will develop up to three (3) pilot study plans to test the SOPs developed in the research proposals for their effectiveness and viability of project design. In doing so, the Metabiota SMEs will provide support, mentorship, and expertise in the development, strengthening, and tailoring of these research plans through the submission proves while the Ugandan stakeholders are expected to write and finalize these plans based on the guidance they are provided. Metabiota will submit the final research plan(s), research proposals (including financials) and proposed SOPs for DTRA CBEP's review and approval.

Phase 3, Part 1: Preparation and Coordination for In-country Training and Pilot Studies (Tasks 1, 3, 4: March 28-Aug 11, 2016)

Metabiota will coordinate with the Ugandan stakeholders to identify the most appropriate participants for both training and Pilot study activities. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured for the SMEs and FLNs as needed. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS via the DTRA CBEP Technical Point of Contact.

Metabiota will coordinate with the Ugandan Stakeholders to identify training needs as discussed in Phase 1 and further identified in Phase 2 SOP development. To meet these needs, Metabiota will reuse existing training materials and SOPs for applicable biosurveillance activities as much as possible. However, due to the limited information currently available regarding the intended pilot research plans, Metabiota expects to use SMEs to adapt and develop training materials for effective delivery of training. Metabiota SMEs will develop new materials, which may including slide presentations, videos, etc. to effectively leverage the learning environment. Metabiota will also develop, as appropriate, pre-tests and post-tests for monitoring and evaluation purposes. Training materials, after development and adaptation, will be delivered to DTRA CBEP for technical review and Public Affairs Office approval.

Phase 3, Part 2: Conduction of In-country Training (Task 1, 3, 4: August 4-24, 2016)
Metabiota SMEs will execute a 10-day training activity for up to 20 participants who will be taking part in the three identified pilot studies followed by a 1-day pilot study coordination day with the pilot study leads. Metabiota anticipates a mix of lecture and hands-on training being necessary, however, Metabiota SMEs will adjust the training approach based on the Stakeholder feedback obtained in Phase 1. Metabiota SMEs will be available for virtual "office hours" and to answer written communications from participants as needed throughout the conduction of pilot studies. Metabiota SMEs will also conduct pre-/post- training testing and evaluations and provide feedback to the participants on their performance. FLNs will be used to facilitate training activities to the extent possible.

Phase 3 Part 3: Conduction of Pilot Studies (Task 1, 4, 6: August 18-Oct 26, 2016)
Metabiota SMEs will coordinate with the pilot study leads for the conduction of three pilot field studies, involving up to three pilot study leads and 11 technicians over a period of 8 weeks. Metabiota SMEs will be available for virtual "office hours" and to answer written communications from all participants as needed throughout the conduction of the pilot studies. Metabiota will provide management oversight and support for the conduction of these pilot studies, and will support the Ugandan collaborators in obtaining all required approvals for project continuation, including but not limited to ROB approvals. Metabiota will coordinate with all Stakeholders to identify the necessary materials required to conduct all pilot effort(s). Inclusive of this, Metabiota will provide any necessary support (SME or logistical) to in-country participants when navigating the procurement process. All materials will be identified and procured with sustainment in mind. Metabiota will submit pilot study summaries, including individual pilot study results, analyses, and conclusions as well as a summary of implementation conclusions to DTRA CBEP for communication to the Ugandan national authorities for disease surveillance and control

Final Project Report
Metabiota PM, PC, and SMEs will all contribute inputs to a final report relaying all actions taken for project implementation through all phases, lessons learned, and identifying next step opportunities upon completion of all deliverables. Results of pre- and post- testing and evaluations from training will also be provided to DTRA CBEP.

Monitoring and Evaluation
In order to develop a comprehensive approach to continuous monitoring and evaluation of this project throughout implementation, Metabiota has developed a comprehensive monitoring and evaluation plan which can be found in the attached Appendix A (Supplemental Information) Part 5.

Risk Management:
In order to anticipate and overcome obstacles included (but not limited to) those listed in Risk Management Matrix found in the attached Supplemental Information Part 2, Metabiota has identified and captured the risks associated with implementing this activity, including contingency planning and course correction measures which will lead to overall regional risk reduction, as outlined in the attached Risk Management Matrix.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

LABOR	$111,755.22
MATERIALS	$105,270.00
ODCs	$3,679.55
TRAVEL	$32,930.50
	$253,635.27

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES).

All phases:
Task 1 - Project Coordination: Metabiota will provide consistent and cohesive technical and administrative leadership, direction, program management, implementation oversight, and coordination of all project activities.

Metabiota Program Manager (PM) The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of DTRA CBEP goals at the country and regional level in direct support of this activity and the DTRA CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the RDA to ensure all day-to-day activities for the project are completed on time, and to the quality required by DTRA CBEP.

Metabiota Project Coordinator: The Metabiota RDA will act as a Project Coordinator (PC) throughout the planning and execution of project objectives. The PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will manage the SMEs and FLNs and lead coordination with the Ugandan Stakeholders, to include leading regular coordination calls with the project team and assist in participant coordination.

Note* - Metabiota recognizes that the RDA labor category was not included to Box 8 of this TD. Upon review of internal support (e.g., Project Coordinators) and to allow greater project implantation flexibility, Metabiota has proposed the use of an RDA instead of a SME 1 for all project coordination. Importantly, while hours have been added for project coordination, the overall cost for the Project Coordinator role remains unchanged between RDA and SME 1.

A key requirement to ensure effective program initiation, execution, and closeout is ensuring clear communication between all project stakeholders. To ensure the project in managed according to CBEP standards, the PM and PC will be responsible for the following:

Initiation and Program Integration: The PM, with PC support, developed the project proposal to include the project timeline, identification and integration of project requirements, deliverables, subcontractors, SMEs, and trainers to ensure project success. Upon acceptance of the proposal, the

PM will hold a kick-off meeting with team members and partners to review the project plan and schedule, establish routine communication to support project implementation, initiate education on the contract requirements, and begin project implementation. Routine communication with all stakeholders will ensure that all deliverables, including required CDRLs, are met and submitted according to the project schedule and contract requirements.

The PM and PC will work closely with Ugandan POC's identified in Box 8 (Phase 1) to understand their respective vision for this effort, including the development of a work plan for implementing all identified activities. In addition, the PM and PC will coordinate communication between Ugandan POC's and the identified grantsmanship/BSV SME's (e.g., project team members) to ensure alignment of project plans with DTRA CBEP goals when developing the research project design and high-quality and competitive research proposal(s) (Phase 2). Lastly, the PM and PC will coordinate all aspects of training implementation (Phase 3), to include identification and appropriate engagement of FLNs, to include a Study Leads and Study Technicians, to support in-country training and BSV pilot studies (Phase 3) by interfacing regularly (see Communication Management) with project personnel to ensure that in-country and overall project objectives and requirements are met in full. The PM will ensure that FLNs are engaged according to contract and project requirements, and have the experience, background, and skills necessary to support training implementation. FLNs are budgeted at the AFRICOM FLN I rate.

The PM will ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include; overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Project Close out: The Metabiota PM and PC will oversee project closeout, to include completion of grant proposals, wrap-up of training, and finalization and submission of all identified deliverables, including final reports. The PM will also ensure the conclusion of subcontracts and other employment agreements.

Additional communication strategies and programmatic safeguards, including 1) Human Resources Management, 2) Communications Management, 3) Risk Management, 4) Schedule Management, 5) Cost Management, 6) Quality Management, and 7) Technical Resource Management can be found in Appendix A (Supplemental Information).

Task 3 – Qualified Trainers (QT): Metabiota will provide financial support to in-country Qualified Trainers (Phase Three, Parts One and Two) via subcontracts of independent consultant agreements with the yet to be identified trainers. Metabiota recognizes the importance of identifying Ugandan nationals to fill these roles in order to foster relationships and build regional capacity. Metabiota will work with all project stakeholders to identify the appropriate trainers. Currently, it is presumed that all qualified trainers will be billed at the AFRICOM FLN 1 rate.

Task 4 - Subject Matter Experts (SMEs): Metabiota will provide ongoing technical support and expertise through the use of SMEs, to include the development of 1) a work plan for implementing all identified activities, 2) project design, and 3) development of high-quality and competitive research proposal(s). Metabiota SMEs engaged for this effort will provide expertise and input on the development and revision of existing training materials, development and revision of SOPs, as well as mentoring of study participants in grantsmanship and BSV training activities. SMEs will predominately operate remotely throughout Phases 1, 2, and most of Phase 3 and will thus provide mentorship through regular written communication and video teleconferencing with project participants, as necessary. Importantly, the SMEs for this effort are Kenyan nationals and geographically situated in Nairobi, Kenya which will ease operating delays due to time zone differences. Moreover, the identified SMEs possess excellent operational knowledge of East Africa and capabilities in technical writing, biosurveillance techniques, and one health concepts related to infectious disease research. For Phase Three, Part Two, SMEs will implement the training efforts and will work in partnership with FLN project participants to administer the courses, provide QA/QC of all materials, engage trainees in capacity building and scientific discussions supporting training concepts and implementation, and assist in the development of a gap analysis report. SMEs on this effort will be performing the functions of both SMEs and Qualified Trainers (QTs). In line with government guidance, the SMEs will be billing at the SME I labor rate, which is the equivalent cost of QT I.

Metabiota will subcontract Africa Biomedical Laboratories (ABL, Nairobi, Kenya) for SME support of this effort. The use of regionally accessible, African Nationals helps to build regional capabilities and networks, and ensures overall project success.

Task 6 – Research Activity Projects: Metabiota will provide financial support to Study Leads and Study Technicians (Phase Three, Part Three) via subcontracts of independent consultant agreements with the yet to be identified participants. Metabiota will work with all project stakeholders to identify the appropriate project participants. It is currently presumed that all project participants will be billed at the AFRICOM FLN 1 rate.

Note* - Metabiota is aware of guidance provided by the US Ambassador to Uganda regarding salary support to Government of Uganda personnel. If the Trainers, Study Leads, or Study Technicians are direct employees of the Ugandan Government (e.g., Ministry of Health, Agriculture, Wildlife, etc.), Metabiota will adjust their engagement strategy to reflect the Ambassadors guidelines. The budget for this project will be impacted accordingly.

Reach back programmatic support to include finance, accounting, and contracts, will be provided as part of CLIN 1001 (FFP) and will not be separately invoiced.

Materials

As defined in Box 8 (Phase Three, Part Three) this activity shall include the procurement of materials and supplies required for the pilot studies, not to exceed $100,000. Metabiota will work with the Ugandan partners to identify the most sustainable, efficient, cost-effective way to procure materials and supplies for executing BSV pilot studies. The identification of sustainable supplies will be critical for continuing BSV-related activities, which will be described in greater detail within newly developed grant proposals (Phase Two). Any materials procured by Metabiota will be shipped via CLS. If materials can be secured and provided to the trainers/trainees locally or online, shipping will not be required. Additionally, Metabiota will work with SMEs based in Kenya to help identify sustainable and reliable vendors of biomedical supplies.

Given the nature of this effort (e.g., BSV), Metabiota anticipates the need to procure personal protective equipment such as Tyvek suits, gloves, goggles, booties, and N95 respirators, as well as consumables and other paraphernalia such as chlorine, plastic wash basins, buckets, disinfectant sprayers, and anti-fog spray will also be procured. A final list of materials required for this effort will be identified in coordination with all project stakeholders.

Following discussions with all project stakeholders, and if warranted, USB internet devices and internet access cards will be procured and provided to project participants in-country to ensure they have access to a stable internet connection during remote coordination and training sessions, which are included to all phases of this effort. USB internet devices will be procured and tested in-country to avoid shipping charges and to ensure they are

operational on the ground. USB internet devices and access cards will be monitored by the FLNs to ensure they are used for project purposes only, and are maintained according to equipment/material guidelines for the duration of the course.

General office supplies will be procured to support in-country training activities and routine project needs for the execution of the training courses. Office supplies will be procured locally and will include, but may not be limited to, pens, paper, thumb drives, binders, etc.

Metabiota will conduct market research and ensure the best value is secured, maintaining quality and technical requirements for all procurement of goods. Metabiota will coordinate directly with CLS and third-country vendors for all necessary shipping requirements, and will work closely with CLS and DTRO to ensure customs clearance requirements are met and goods delivered according to project timelines and CDRL requirements. Metabiota will ensure cost management for all procured supplies and will coordinate directly with CBEP and CLS to support additional requirements for the hands-on training events to include such items as printing of the developed and adapted training materials, training certificates for participants, and translation services, if needed.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project working abroad. DBA insurance will be applied for labor costs incurred overseas. DBA will be applied to the PM, SMEs/Trainers, FLNs, and other contractors, engaged on this effort, for the duration of the program. Metabiota maintains a blanket DBA policy for all personnel and will add the SMEs and FLNs, and other performers meeting DBA requirements, to this policy as they are engaged. A(b)(6) of their total compensation will be billed to the project on a monthly basis. A reconciliation of the total DBA will be performed prior to final invoicing to ensure accuracy of the charges, in accordance with total hours worked. Final invoicing will be adjusted, if necessary, to reflect the final DBA allocation numbers.

Subcontracts

Subcontracts will be issued to SMEs, FLNs, and/or their home organization(s) as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the labor or materials budgets.

Travel

Travel is requested to support the Program Manager, SME, and qualified Ugandan trainers to Kampala, Uganda to implement training efforts for project participants (Phase Three, Part Two). The travel budget represents the estimated amount required. Travel on the AEP contract is cost reimbursable.

All Metabiota personnel slated to travel are current with regard to ISOPREP, SERE, and AT/FP trainings, as required by CBEP. Additionally, the SME's leveraged for this effort are Kenyan Nationals and therefore do not require the aforementioned travel trainings/documents.

Our travel budget assumes training will be held in Kampala over the course of two weeks, including one day before or after for in-person coordination, as described in Phase Three, Part Two of this proposal. If, through discussion with the Ugandan stakeholders, an alternative schedule is created or an alterative location is desired, travel costs may be impacted accordingly.

10. FUNDING AUTHORIZED THIS TD:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	111,755.22		
1003	MATERIALS	$	105,270.00		
1004	ODCs	$	3,679.55		
1005	TRAVEL	$	32,930.50		
	TOTAL	**$**	**253,635.27**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ 253,635.27

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ 253,635.27

12a. CURRENT PERIOD OF PERFORMANCE

21-Mar-2016 – 15-May-2016

12b. TD REV PERIOD OF PERFORMANCE

21-Mar-2016 – 15-May-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:

Date: 31 March 2016

14. REGION

AFRICOM/ Uganda

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

(b)(6)

X

(b)(6)

Instructions:

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact Details
8. Description of the Technical Directive Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution for TD. Limit to __ pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Limit to __ pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cumulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Contracting Officer Approval: Sign & Date
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	022	A

4. TD TITLE

Uganda Biosurveillance and Grantsmanship Training

5. TOTAL TD ESTIMATE:

HOURS. _____ DOLLARS: $ **$253,635.27**

6. CONTRACING OFFICER REPRESENTATIVE

NAME (b)(6)

PHONE (b)(6) MAIL (b)(6)

7. CONTRACTOR POC

NAME (b)(6)

PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-022 from 15 May 2016 to 15 November 2016 at no additional cost. This PoP extension is to provide enough time to continue providing grantsmanship training and subject matter expert (SME) assistance for the coordination of project design, research proposal development, and implementation of a pilot biosurveillance study in Uganda. Metabota should coordinate directly with the Technical POCs identified below. No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV.

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$253,635.27**

12a. CURRENT PERIOD OF PERFORMANCE

21-MAR-2016 – 15 MAY 2016

12b. TO REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature (b)(6)

Date: **13 May 2016**

14. REGION

AFRICOM/ Uganda

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X (b)(6)

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd, Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	022	B

4. TD TITLE

Uganda Biosurveillance and Grantsmanship Training

5. TOTAL TD ESTIMATE

HOURS: _____ DOLLARS: $ **$894.21**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHON (b)(6) EMA (b)(6)

7. CONTRACTOR POC

NAME: (b)(6)

PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The purpose of this revision is to increase the TD ceiling by $894.21 and adjust funding on the CLINs detailed in Block 10 below.

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below

No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	121,000.00		
1003	MATERIALS	$	112,000.00		
1004	ODCs	$	2,810.29		
1005	TRAVEL	$	18,719.19		
	TOTAL	**$**	**254,529.48**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV

$ **$894.21**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$254,529.48**

12a. CURRENT PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

12b. TD REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature: (b)(6)

Date: **15 November 2016**

14. REGION

AFRICOM/ Uganda

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

(b)(6)

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
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TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	23	

4. TD TITLE	5. TOTAL TD ESTIMATE.
South Africa One Health Epidemiology Short Course Curriculum Updates and Edits	HOURS **700** DOLLARS: $ **110,000**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE (b)(6)	PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TECHNICAL DIRECTION

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to implement revisions (identified in TD-10) to the Walter Reed Army Institute of Research (WRAIR) Epidemiology Short Course curriculum as this material will be transformed into an adapted One Health Epidemiology Short Course, tailored for South Africa in accordance with SOW, Section 4.4, Task 1, 3, and 4.

In a follow-on to TD-10, where the Metabiota team identified the edits and revisions necessary to update the WRAIR Epidemiology short course, TD-23 requests Metabiota to now execute those edits and revisions and develop a comprehensive One Health Epidemiology (OHE) short course. The short course is intended for health professionals in South Africa who require knowledge of OHE, but are not able or eligible to be part of the Centers for Disease Control and Prevention's Field Epidemiology Training Program (FETP). The short course shall include a One Health introductory module with two tracks – (1) One basic level track for professionals who are completely new to the OHE concept and need comprehensive tutorials on basic skills, and (2) One advanced level track for professionals who are more knowledgeable about OHE but require more in-depth training. Each track shall have two disease case studies involving zoonotic diseases of security concern which directly affect South Africa. Both the basic level and advanced tracks shall touch upon the same two diseases, but at different levels of detail appropriate for the intended track participants. Metabiota shall propose the two most appropriate zoonotic diseases based on relevance to South African partners and the region, and alignment with the needs identified in the Landscape Analysis conducted by Metabiota under TD-10 during the February 2016 interviews of stakeholders in Pretoria and Johannesburg. Thorough justification for the two suggested diseases shall be included in the proposal in response to this TD. DTRA CBEP will ultimately determine the two diseases to be included. The updated OHE short course curriculum shall include all of the identified changes from the Landscape Analysis. Over 1305 business hours, it is assumed that it will take 0.15 FTE of an SME II and 0.1 FTE of a Trainer I to adapt the curriculum.

In addition to updating the OHE short course curriculum, Metabiota shall develop a Train the Trainer (ToT) module to be delivered to the selected South African trainers of the OHE short course. The ToT module shall be able to be conducted over a 2-3 day ToT session. This TD does not include implementation or delivery of the ToT module or either OHE short course track and is for the development of materials only. Over 1305 business hours, it is assumed that it will take 0.1 FTE of an SME II and 0.15 FTE of a Trainer I to adapt the curriculum.

The final deliverable (CDRL A003) is the complete and updated short course curriculum, which is comprised of the basic level track, the advanced level track, and the ToT module. Metabiota shall conduct an in-person review of the curriculum and the status of updates twice – once at 30% complete (CDRL A001), and again at 60% complete (CDRL A002). These in-person reviews will provide DTRA CBEP with the ability to review the status of the curriculum updates and make comments or requests to shape the direction of the updates. DTRA CBEP will give Metabiota its comments no sooner than 2 weeks (10 business days) after the in-person review.

Throughout the curriculum update process, Metabiota shall continue coordinating with DTRA CBEP's South Africa engagement Country Manager on a weekly basis. Metabiota shall continue to coordinate with CDC-South Africa, the United States Department of Agriculture, and South African stakeholders on an as-needed basis via electronic and phone communications. No travel shall be required.

The period of performance for this effort will be from 3/21/16 to 5/15/16. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $110,000 is requested by 3/15/16. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation (Task 1):

Metabiota developed a project plan and implementation strategy that aligns with narrative from Box 8. It is anticipated that the plan for TD-023 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM), Subject Matter Expert (SME II) and Project Coordinator (PC, billed as a Research and Data Analyst (RDA)) time to identify the optimal strategy, including required deliverables and other programmatic requirements, which may be a part of project implementation.

Key Assumptions

1. Metabiota assumes changes to the budget (e.g., labor categories) will be acceptable to DTRA. An RDA was added to support coordination and provide flexibility when implementing. A second RDA was added to support technical development of project deliverables; however, neither of these changes has affected the overall project budget.
2. Metabiota assumes that the stated period of performance Period of Performance ending May 15, 2016 will be extended through Nov 15, 2016 contingent upon the approval of Metabiota's AEP contract extension.
3. The breadth of material updates will be based on, but not entirely limited to those stated within the "One Health Epidemiology Landscape Analysis" developed during TD-010 under AEP.
4. In person reviews requested by DTRA CBEP at iterations of 30% and 60% completeness will yield comments and direction reasonable for incorporation and conducive to existing project constraints.
5. Regular or incidental communication with South African Stakeholders involved in TD-010 under AEP will not need to be built into the project plan.

Work Plan Development (Task 1, 3, and 4)
The Metabiota PM and PC coordinated with (b)(6) EVP Science Integration, and our regional partner network to identify the appropriate SMEs in One Health Epidemiology to develop and augment the existing One Health Epidemiology (OHE) training materials as described in Box 8 and through coordination with DTRA CBEP AFRICOM.

Upon approval of the TD, the Metabiota PM and PC will engage DTRA CBEP to ensure a mutual understanding of project goals and objectives. The Metabiota PM, PC, and SMEs will participate in regular project communications with stakeholders to ensure mutual understanding of project goals, actions, and status. Metabiota believes we are in possession of relevant documentation, including reports and stakeholder feedback following completion of TD-010, needed to implement the requirements identified in Box 8 of this TD (e.g., TD-023). As materials are being revised, it is possible that questions requiring RSA stakeholder feedback may arise. In this unlikely scenario, Metabiota will engage DTRA CBEP POC's prior to communicating with any RSA stakeholders.

Metabiota SMEs engaged for this effort will have a comprehensive understanding of the already developed One Health Epidemiology Landscape Analysis and TD-010 SME materials review notes prior to any material adaptation and Training-of-Trainer (ToT) course development planning. The Metabiota PM and SME II, who were involved in the execution of TD-010, will serve as informational focal points for other project personnel requiring additional landscape knowledge. The Metabiota SMEs will develop a project work plan outlining the appropriate path forward for tailoring OHE training materials and ToT Module development. This work plan will identify a timeline of implementation and key milestones and goals for the adaptation of the One Health Epidemiology (OHE) short course curriculum and the development of an associated ToT module. The Metabiota PM will submit the work plan draft(s) to DTRA CBEP for review and approval no later than 20 business days after TD-023 approval.

Updating One Health Epidemiology Short Course Curriculum (Task 1, 3, and 4).
Metabiota SMEs will adapt the existing One Health Epidemiology short course curriculum to reflect improvements and updates identified SMEs and South African stakeholders as described in the South African One Health Epidemiology Landscape Analysis (AEP TD-010). SMEs engaged for this effort will incorporate relevant alterations, additions, and updates to the OHE curriculum originally developed by WRAIR for both Kenya and Uganda. Based on needs identified by the landscape analysis, the improvements will ensure both relevance and congruency of OHE training within the greater South African public health training environment. To this end, Metabiota will endeavor to modify and bolster the existing curriculum into dual track short courses described in more detail below

(1) *One Health Epidemiology Training, Republic of South Africa-Basic*
An updated OHE training short course based on the existing materials developed by WRAIR, but purposed for professionals new to the concept of One Health Epidemiology. This track will introduce professionals working within any One Health related sector to basic principles and practices of One Health and applied epidemiology. This course will offer trainees a basic understanding of select agents and, notably, provide them with a core understanding of those which are highly relevant to South Africa. Leveraging information gained in TD-010, Metabiota has tentatively decided to focus on incorporating disease example modules that include (1) Rift Valley Fever (RFV) and (2) Avian influenza.

(2) *One Health Epidemiology Training, Republic of South Africa-Advanced*
An updated OHE training short course based on the existing materials developed by WRAIR, but purposed for professionals possessing some significant knowledge base of One Health Epidemiology concepts. This track will introduce professionals working within any One Health related sector to advanced principles and practices of One Health and applied epidemiology. This course will provide trainees with a thorough understanding of select agents and an advanced understanding of those which are of relevance to South Africa. Leveraging information gained in TD-010, Metabiota has preliminarily decided to focus on the incorporation of disease example modules that include (1) RFV and (2) Avian influenza.

Developing a Training-of-Trainers Module (Task 1, 3, and 4)
Metabiota will design and develop a ToT module specifically purposed to support the onboarding of future One Health Epidemiology Republic of South Africa trainers. SMEs engaged for this effort will have extensive training program development experience and will ensure that this module has specific relevance to the both basic and advanced tracks for One Health Epidemiology training in South Africa. This course will provide OHE trainers with expert knowledge in training administration beyond what could be gleaned from completing either track. The ToT module will be designed for South African local nationals, and will be purposed to support the long term sustainability of OHE training in-country. The module will be designed to a support trainee commitment of three days or less. Importantly, and in an effort to mitigate any potential risks regarding available LOE, Metabiota will not begin development of the ToT Module until official notice to proceed is issue by the DTRA CBEP Country Manager. Once approved to do so, Metabiota will initiate the OHE curriculum adaptations and provide DTRA CBEP with regular updates during bi-weekly communications concerning cost and schedule. Based on these updates, DTRA CBEP will determine if sufficient funds exist to enact the development of the ToT module. Upon direction from DTRA CBEP, Metabiota will commence this activity in an efficient and timely manner.

In support of quality assurance towards the development of these final deliverables, Metabiota will conduct two in-person progress reviews with DTRA CBEP. These reviews will be presented to DTRA CBEP at iterations of 30% and 60% full course completion. These reviews will allow for more direct and sustained influence from DTRA CBEP over the final project deliverable. The final deliverable for this effort will comprise a OHE training short course adapted to the South African Landscape. This course will be complete with a ToT module and will have both a basic and advanced track purposed respectively for those with little or significant knowledge of One Health Epidemiology concepts

Project Closeout (Task 1, 3, and 4)
Metabiota PM, PC, and SMEs will all contribute inputs to a final report relaying all actions taken for project implementation through all phases, lessons learned, and identifying next step opportunities upon completion of all deliverables. The Metabiota PM will submit this report to the DTRA CBEP.

Risk Management (Task 1)
In order to anticipate and overcome obstacles included (but not limited to) those listed in Risk Management Matrix found in the attached Supplemental Information Section 3, Metabiota has identified and captured the risks associated with implementing this activity, including contingency planning and course correction measures which will lead to overall regional risk reduction, as outlined in the below Risk Management Matrix.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$112,883.29
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$112,883.29**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES)

All Phases:
Task 1—Project Coordination: Metabiota will provide consistent and cohesive technical and administrative leadership, direction, program management, implementation oversight, and coordination of all project activities.

Metabiota Program Manager (PM): The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of DTRA CBEP goals at the country and regional level in direct support of this activity and the DTRA CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the RDA and SMEs to ensure all day-to-day activities for the project are completed on time, and to the quality required by DTRA CBEP.

Metabiota Project Coordinator: The Metabiota Research and Data Analyst (RDA) will act as a Project Coordinator (PC) throughout the proposal development, planning, and execution of project objectives. The PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to DTRA CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will manage the SMEs and lead coordination with the South African Stakeholders, to include leading regular coordination calls with the project team and assist in participant coordination.

Note* - Metabiota recognizes that the RDA labor category was not included to Box 8 of this TD. Upon review of internal support (e.g., Project Coordinators) and to allow greater project implementation flexibility, Metabiota has proposed the use of an RDA to support all project coordination. Importantly, while hours have been added for project coordination, the overall cost for the Project Coordinator role remains unchanged.

A key requirement to ensure effective program initiation, execution, and closeout is ensuring clear communication between all project stakeholders. To ensure the project in managed according to CBEP standards, the PM and PC will be responsible for the following:

Initiation and Program Integration: The PM, with PC support, developed the project proposal to include the project timeline, identification and integration of project requirements, deliverables, subcontractors, and SMEs to ensure project success. Upon acceptance of the proposal, the PM will hold a kick-off meeting with team members and partners to review the project plan and schedule, establish routine communication to support project implementation, initiate education on the contract requirements, and begin project implementation. Routine communication with all stakeholders will ensure that all deliverables, including required CDRLs, are met and submitted according to the project schedule and contract requirements.

The PM and PC will work closely with the project stakeholders to understand their respective vision for this effort, including the development of a work plan for implementing all identified activities. In addition, the PM and PC will coordinate communication between the SME's (e.g., project team members) to ensure alignment of project plans with DTRA CBEP goals. Lastly, the PM and PC will coordinate all aspects of this project by interfacing regularly (see Communication Management Appendix A Section 2.2) with project personnel to ensure that in-country and overall project objectives and requirements are met in full. The PM will ensure that SMEs are engaged according to contract and project requirements, and have the experience, background, and skills necessary to support project implementation.

The PM will ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include: overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and/or independent consultants throughout the span of the project.

Project Closeout: The Metabiota PM and PC will oversee project closeout to include wrap-up of materials development, finalization of deliverables, and final reports. The PM will also ensure the conclusion of subcontracts and other employment agreements.

Additional communication strategies and programmatic safeguards, including 1) Human Resources Management, 2) Communications Management, 3) Risk Management, 4) Schedule Management, 5) Cost Management, 6) Quality Management, and 7) Technical Resource Management can be found in Appendix A (Supplemental Information).

Task 4—Subject Matter Experts (SMEs): Metabiota SMEs will provide ongoing technical support and expertise through the use of SMEs, to include the development of 1) a work plan for implementing all identified activities 2) augmentation of OHE training materials, and 3) development of ToT module.

Metabiota Subject Matter Expert II will act as a technical lead in the updating of One Health Epidemiology Short Course Curriculum. The SME will coordinate with the Metabiota project team to develop a work plan, including detailed milestones and timelines, for updating the OHE short course curriculum. With the support of additional SMEs (billed at a Trainer I and RDA), the SME II will lead the final development of both the basic track and advanced track courses. The SME engaged for this effort will have a terminal degree in the field of epidemiology, an understanding of the One Health philosophy, extensive knowledge of the South African epidemiology training landscape, a full and in-depth knowledge of the existing OHE course curriculum, and cognizance of the exact needs for materials improvement. The SME II will assist the Metabiota PM and PC team in the preparation and delivery of an in-person review of progress with DTRA CBEP representation at iterations of 30% and 60% completeness. The SME II will be present at all relevant project stakeholder calls and will communicate regularly with the Metabiota PM providing progress reports on a weekly basis. The Metabiota SME II will support technical aspects of proposal development. In line with government guidance, the SME will be billing at the SME II labor rate.

The Metabiota SME II will additionally serve in a technical support capacity towards the development of the ToT Module. The SME II will communicate regularly with the Metabiota PM and PC regarding any progress and challenges on a weekly basis. Hours proposed for this labor category are based on a best estimate for effectively and efficiently executing the requirements. Should these hours not be required for this project, the government will not be billed for them.

The Metabiota Trainer I (SAFOSO AG) will act as a technical lead in the development of a One Health Epidemiology Short Course ToT module, upon receipt of TD approval. For this effort, Metabiota has engaged SAFOSO AG as our expert team of trainers. SAFOSO recently supported CBEP-funded African Swine fever outreach program in coordination with Metabiota, BTRIC contractors, and four teams of scientists from CBEP engaged FSU countries (e.g., Armenia, Georgia, Kazakhstan, and Ukraine). Members of SAFOSO developed and led all elements of training for this activity. The Trainer I will coordinate with the PM and PC to develop a project plan and timeline for the development of this module, and will lead the final development of this course. The Trainer I engaged for this effort will have an extensive understanding of the One Health philosophy and experience designing and implementing novel ToT training modules. The Trainer I will coordinate with the Metabiota PM and PC to prepare for and execute an in person review of progress with DTRA CBEP representation at iterations of 30% and 60% completeness. The Trainer I will be present at all relevant project stakeholder calls and will communicate regularly with the PM providing progress reports on a weekly basis.

The Metabiota Trainer I will additionally serve in a technical support capacity towards the development of the updates of the One Health Epidemiology Short Course Basic and Advanced Curriculum. The Trainer I will communicate regularly with the Metabiota PM and PC regarding any progress and challenges on a weekly basis. Hours proposed for this labor category are based on a best estimate for effectively and efficiently executing the requirements. Should these hours not be required for this project, the government will not be billed for them.

The Metabiota RDA will act as technical support in the augmentation of the One Health Epidemiology Short Course Basic and Advanced Curriculum and the development of OHE ToT module. The RDA will attend coordination meetings with all members of the project team in support of the development of project plans and timelines for the development of each deliverable. The RDA engaged for this effort will have an understanding of the One Health philosophy and epidemiology, a knowledge of the existing OHE course curriculum, and experience supporting the development of technical deliverables. The RDA will coordinate with the Metabiota Project team to assist in preparation for and execute of in person review of progress with DTRA CBEP representation at iterations of 30% and 60% completeness for both deliverables. The RDA will be present at all relevant project stakeholder calls and will communicate regularly with the PM providing progress reports on a weekly basis. Hours proposed for this labor category are based on a best estimate for effectively and efficiently executing the requirements. Should these hours not be required for this project, the government will not be billed for them.

Materials
Metabiota will not incur any material costs under this technical direction

Other Direct Costs
Metabiota will not incur any other direct costs under this technical direction

Subcontracts
Subcontracts will be issued to SAFOSO AG as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories.

Travel
Metabiota will not incur any travel costs under this technical direction

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 112,883.29		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ 112,883.29**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV.
$ $112,883.29

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV.
$ $112,883.29

12a. CURRENT PERIOD OF PERFORMANCE
21-Mar-2016 – 15-May-2016

12b. TD REV PERIOD OF PERFORMANCE
21-Mar-2016 – 15-May-2016

13. CONTRACTOR [redacted] AND DATE
Signature: (b)(6)
Date: 8 April 2016

14. REGION
AFRICOM / South Africa

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X (b)(6)
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
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7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
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    b. TD Rev POP
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16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
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8725 John J. Kingman Rd, Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	23	

4. TD TITLE	5. TOTAL TD ESTIMATE.
South Africa One Health Epidemiology Short Course Curriculum Updates and Edits	HOURS: **700** DOLLARS: $ **110,000**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE:	PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE).

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to implement revisions (identified in TD-10) to the Walter Reed Army Institute of Research (WRAIR) Epidemiology Short Course curriculum as this material will be transformed into an adapted One Health Epidemiology Short Course, tailored for South Africa in accordance with SOW, Section 4.4, Task 1, 3, and 4.

In a follow-on to TD-10, where the Metabiota team identified the edits and revisions necessary to update the WRAIR Epidemiology short course, TD-23 requests Metabiota to now execute those edits and revisions and develop a comprehensive One Health Epidemiology (OHE) short course. The short course is intended for health professionals in South Africa who require knowledge of OHE, but are not able or eligible to be part of the Centers for Disease Control and Prevention's Field Epidemiology Training Program (FETP). The short course shall include a One Health introductory module with two tracks – (1) One basic level track for professionals who are completely new to the OHE concept and need comprehensive tutorials on basic skills, and (2) One advanced level track for professionals who are more knowledgeable about OHE but require more in-depth training. Each track shall have two disease case studies involving zoonotic diseases of security concern which directly affect South Africa. Both the basic level and advanced tracks shall touch upon the same two diseases, but at different levels of detail appropriate for the intended track participants. Metabiota shall propose the two most appropriate zoonotic diseases based on relevance to South African partners and the region, and alignment with the needs identified in the Landscape Analysis conducted by Metabiota under TD-10 during the February 2016 interviews of stakeholders in Pretoria and Johannesburg. Thorough justification for the two suggested diseases shall be included in the proposal in response to this TD. DTRA CBEP will ultimately determine the two diseases to be included. The updated OHE short course curriculum shall include all of the identified changes from the Landscape Analysis. Over 1305 business hours, it is assumed that it will take 0.15 FTE of an SME II and 0.1 FTE of a Trainer I to adapt the curriculum.

In addition to updating the OHE short course curriculum, Metabiota shall develop a Train the Trainer (ToT) module to be delivered to the selected South African trainers of the OHE short course. The ToT module shall be able to be conducted over a 2-3 day ToT session. This TD does not include implementation or delivery of the ToT module or either OHE short course track and is for the development of materials only. Over 1305 business hours, it is assumed that it will take 0.1 FTE of an SME II and 0.15 FTE of a Trainer I to adapt the curriculum.

The final deliverable (CDRL A003) is the complete and updated short course curriculum, which is comprised of the basic level track, the advanced level track, and the ToT module. Metabiota shall conduct an in-person review of the curriculum and the status of updates twice – once at 30% complete (CDRL A001), and again at 60% complete (CDRL A002). These in-person reviews will provide DTRA CBEP with the ability to review the status of the curriculum updates and make comments or requests to shape the direction of the updates. DTRA CBEP will give Metabiota its comments no sooner than 2 weeks (10 business days) after the in-person review.

Throughout the curriculum update process, Metabiota shall continue coordinating with DTRA CBEP's South Africa engagement Country Manager on a weekly basis. Metabiota shall continue to coordinate with CDC-South Africa, the United States Department of Agriculture, and South African stakeholders on an as-needed basis via electronic and phone communications. No travel shall be required.

The period of performance for this effort will be from 3/21/16 to 5/15/16. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $110,000 is requested by 3/15/16. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP PCCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation (Task 1):

Metabiota developed a project plan and implementation strategy that aligns with narrative from Box 8. It is anticipated that the plan for TD-023 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM), Subject Matter Expert (SME II) and Project Coordinator (PC, billed as a Research and Data Analyst (RDA)) time to identify the optimal strategy, including required deliverables and other programmatic requirements, which may be a part of project implementation.

Key Assumptions

1. Metabiota assumes changes to the budget (e.g., labor categories) will be acceptable to DTRA. An RDA was added to support coordination and provide flexibility when implementing. A second RDA was added to support technical development of project deliverables; however, neither of these changes has affected the overall project budget.
2. Metabiota assumes that the stated period of performance Period of Performance ending May 15, 2016 will be extended through Nov 15, 2016 contingent upon the approval of Metabiota's AEP contract extension.
3. The breadth of material updates will be based on, but not entirely limited to those stated within the "One Health Epidemiology Landscape Analysis" developed during TD-010 under AEP
4. In person reviews requested by DTRA CBEP at iterations of 30% and 60% completeness will yield comments and direction reasonable for incorporation and conducive to existing project constraints.
5. Regular or incidental communication with South African Stakeholders involved in TD-010 under AEP will not need to be built into the project plan.

Work Plan Development (Task 1, 3, and 4)
The Metabiota PM and PC will coordinate with Dr. Mary Guttieri, EVP Science Integration, and our regional partner network to identify the appropriate SMEs in One Health Epidemiology to develop and augment the existing One Health Epidemiology (OHE) training materials as described in Box 8 and through coordination with DTRA CBEP AFRICOM.

Upon approval of the TD, the Metabiota PM and PC will engage DTRA CBEP to ensure a mutual understanding of project goals and objectives are realized, as well as to obtain the concept notes referred to in Box 8. Metabiota will additionally engage with the identified SMEs as well as other key South African stakeholders to obtain additional information for the augmentation of the training materials as needed. The Metabiota PM, PC, and SMEs will participate in regular project communications with stakeholders to ensure mutual understanding of project goals, actions, and status.

Metabiota SMEs will conduct a review of the One Health Epidemiology Landscape Analysis and TD-010 SME materials review notes to establish a baseline for materials augmentation planning. The Metabiota PM will then conduct a series of data calls with the South African stakeholders in order for the SMEs familiarize themselves with the the identified stakeholder needs and obtain feedback on anticipated milestones as needed. In doing so, the Metabiota SMEs will identify an appropriate path forward for OHE training materials augmentation work plan. This work plan will identify a timeline of implementation and key milestones and goals for the augmentation of the One Health Epidemiology (OHE) short course curriculum and the development of an associated Train the Trainer (ToT) module. The Metabiota PM will submit the work plan draft(s) to DTRA CBEP for review and approval.

Updating One Health Epidemiology Short Course Curriculum (Task 1, 3, and 4):
Metabiota SMEs will adapt the existing One Health Epidemiology short course curriculum to reflect improvements and updates identified SMEs and South African stakeholders as described in the South African One Health Epidemiology Landscape Analysis (AEP TD-010). SMEs engaged for this effort will incorporate relevant alterations, additions, and updates to the OHE curriculum originally developed by WRAIR for both Kenya and Uganda. Based on needs identified by the landscape analysis, the improvements will ensure both relevance and congruency of OHE training within the greater South African public health training environment. To this end, Metabiota will endeavor to modify and bolster the existing curriculum into dual track short courses described in more detail below:

(1) *One Health Epidemiology Training, Republic of South Africa-Basic*
An updated OHE training short course based on the existing materials developed by WRAIR, but purposed for professionals new to the concept of One Health Epidemiology. This track will introduce professionals working within any One Health related sector to basic principles and practices of One Health and applied epidemiology. This course will offer trainees a basic understanding of select agents and, notably, provide them with a core understanding of those which are highly relevant to South Africa. Metabiota has preliminarily decided, based on best estimates for feasibility and effectiveness, to focus on the incorporation of disease examples that include Crimean-Congo Hemorrhagic Fever (CCHF), and Tick-Borne Rickettsia; however, the use of these diseases in training course material should be subject to reevaluation as the project progresses

(2) *One Health Epidemiology Training, Republic of South Africa-Advanced*
An updated OHE training short course based on the existing materials developed by WRAIR, but purposed for professionals possessing some significant knowledge base of One Health Epidemiology concepts. This track will introduce professionals working within any One Health related sector to advanced principles and practices of One Health and applied epidemiology. This course will provide trainees with a thorough understanding of select agents and an advanced understanding of those which are of relevance to South Africa. Metabiota has preliminarily decided, based on best estimates for feasibility and effectiveness, to focus on the incorporation of disease examples that include CCHF, and Tick-borne Rickettsia; however, the use of these diseases in training course material should be subject to reevaluation as the project progresses.

Developing a Training-of-Trainers Module (Task 1, 3, and 4)
Metabiota will design and develop a Training-of-Trainers (ToT) module specifically purposed to support the onboarding of future One Health Epidemiology Republic of South Africa trainers. SMEs engaged for this effort will have extensive training program development experience and will ensure that this module has specific relevance to the both basic and advanced tracks for One Health Epidemiology training in South Africa. This course will provide OHE trainers with expert knowledge in training administration beyond what could be gleaned from completing either track. The ToT module will be designed for South African local nationals, and will be purposed to support the long term sustainability of OHE in-country. The module will be designed to a support trainee commitment of three days or less.

In support of quality assurance towards the development of these final deliverables, Metabiota will conduct two in-person progress reviews with DTRA CBEP. These reviews will be presented to DTRA CBEP at iterations of 30% and 60% full course completion. These reviews will allow for more direct and sustained influence from DTRA CBEP over the final project deliverable. The final deliverable for this effort will comprise a OHE training short course adapted to the South African Landscape. This course will be complete with a ToT module and will have both a basic and advanced track purposed respectively for those with little or significant knowledge of One Health Epidemiology concepts.

Project Closeout (Task 1, 3, and 4)
Metabiota PM, PC, and SMEs will all contribute inputs to a final report relaying all actions taken for project implementation through all phases, lessons learned, and identifying next step opportunities upon completion of all deliverables. The Metabiota PM will submit this report to the DTRA CBEP.

Risk Management (Task 1)
In order to anticipate and overcome obstacles included (but not limited to) those listed in Risk Management Matrix found in the attached Supplemental Information Section 3, Metabiota has identified and captured the risks associated with implementing this activity, including contingency planning and course correction measures which will lead to overall regional risk reduction, as outlined in the below Risk Management Matrix.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$112,883
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$112,883.29**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

All Phases:
Task 1—Project Coordination: Metabiota will provide consistent and cohesive technical and administrative leadership, direction, program management, implementation oversight, and coordination of all project activities.

Metabiota Program Manager (PM): The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of DTRA CBEP goals at the country and regional level in direct support of this activity and the DTRA CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM wi l manage the RDA and SMEs to ensure all day-to-day activities for the project are completed on time, and to the quality required by DTRA CBEP.

Metabiota Project Coordinator: The Metabiota Research and Data Analyst (RDA) will act as a Project Coordinator (PC) throughout the proposal development, planning, and execution of project objectives. The PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals by participating in proposal development anc leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to DTRA CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will manage the SMEs and lead coordination with the South African Stakeholders, to include leading regular coordination calls with the project team and assist in participant coordination.

Note* - Metabiota recognizes that the RDA labor category was not included to Box 8 of this TD. Upon review of internal support (e.g., Project Coordinators) and to allow greater project implementation flexibility, Metabiota has proposed the use of an RDA to support all project coordination. Importantly, while hours have been added for project coordination, the overall cost for the Project Coordinator role remains unchanged.

A key requirement to ensure effective program initiation, execution, and closeout is ensuring clear communication between all project stakeholders. To ensure the project in managed according to CBEP standards, the PM and PC will be responsible for the following:

Initiation and Program Integration: The PM, with PC support, developed the project proposal to include the project timeline, identification and integration of project requirements, deliverables, subcontractors, and SMEs to ensure project success. Upon acceptance of the proposal, the PM will hold a kick-off meeting with team members and partners to review the project plan and schedule, establish routine communication to support project implementation, initiate education on the contract requirements, and begin project implementation. Routine communication with all stakeholders will ensure that all deliverables, including required CDRLs, are met and submitted according to the project schedule and contract requirements.

The PM and PC will work closely with the project stakeholders to understand their respective vision for this effort, including the development of a work plan for implementing all identified activities. In addition, the PM and PC will coordinate communication between the SME's (e g , project team members) to ensure alignment of project plans with DTRA CBEP goals. Lastly, the PM and PC will coordinate all aspects of this project by interfacing regularly (see Communication Management Appendix A Section 2.2) with project personnel to ensure that in-country and overall project objectives and requirements are met in full. The PM will ensure that SMEs are engaged according to contract and project requirements, and have the experience, background, and skills necessary to support project implementation.

The PM will ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include, overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and/or independent consultants throughout the span of the project.

Project Closeout: The Metabiota PM and PC will oversee project closeout, to include wrap-up of materials development, finalization of deliverables, and final reports. The PM will also ensure the conclusion of subcontracts and other employment agreements.

Additional communication strategies and programmatic safeguards, including 1) Human Resources Management, 2) Communications Management, 3) Risk Management, 4) Schedule Management, 5) Cost Management, 6) Quality Management, and 7) Technical Resource Management can be found in Appendix A (Supplemental Information).

Task 4—Subject Matter Experts (SMEs). Metabiota SMEs will provide ongoing technical support and expertise through the use of SMEs, to include the development of 1) a work plan for implementing all identified activities, 2) augmentation of OHE training materials, and 3) development of ToT module.

Metabiota Subject Matter Expert II will act as a technical lead in the updating of One Health Epidemiology Short Course Curriculum. The SME will coordinate with the Metabiota project team to develop a work plan, including detailed milestones and timelines, for updating the OHE short course curriculum. With the support of additional SMEs (billed at a Trainer I and RDA), the SME II will lead the final development of both the basic track and advanced track courses. The SME engaged for this effort will have a terminal degree in the field of epidemiology, an understanding of the One Health philosophy, extensive knowledge of the South African epidemiology training landscape, a full and in-depth knowledge of the existing OHE course curriculum, and cognizance of the exact needs for materials improvement. The SME II will assist the Metabiota PM and PC team in the preparation and delivery of an in-person review of progress with DTRA CBEP representation at iterations of 30% and 60% completeness. The SME II will be present at all relevant project stakeholder calls and will communicate regularly with the Metabiota PM providing progress reports on a weekly basis. The Metabiota SME II will support technical aspects of proposal development. In line with government guidance, the SME will be billing at the SME II labor rate.

The Metabiota SME II will additionally serve in a technical support capacity towards the development of the ToT Module. The SME II will communicate regularly with the Metabiota PM and PC regarding any progress and challenges on a weekly basis. Hours proposed for this labor category are based on a best estimate for effectively and efficiently executing the requirements. Should these hours not be required for this project, the government will not be billed for them.

The Metabiota Trainer I will act as a technical lead in the development of a One Health Epidemiology Short Course ToT module. The Trainer I will coordinate with the PM and PC to develop a project plan and timeline for the development of this module, and will lead the final development of this course. The Trainer I engaged for this effort will have an extensive understanding of the One Health philosophy and experience designing and implementing novel ToT training modules. The Trainer I will coordinate with the Metabiota PM and PC to prepare for and execute an in person review of progress with DTRA CBEP representation at iterations of 30% and 60% completeness. The Trainer I will be present at all relevant project stakeholder calls and will communicate regularly with the PM providing progress reports on a weekly basis.

The Metabiota Trainer I will additionally serve in a technical support capacity towards the development of the updates of the One Health Epidemiology Short Course Basic and Advanced Curriculum. The Trainer I will communicate regularly with the Metabiota PM and PC regarding any progress and challenges on a weekly basis. Hours proposed for this labor category are based on a best estimate for effectively and efficiently executing the requirements. Should these hours not be required for this project, the government will not be billed for them.

The Metabiota RDA will act as technical support in the augmentation of the One Health Epidemiology Short Course Basic and Advanced Curriculum and the development of OHE ToT module. The RDA will attend coordination meetings with all members of the project team in support of the development of project plans and timelines for the development of each deliverable. The RDA engaged for this effort will have a an understanding of the One Health philosophy and epidemiology, a knowledge of the existing OHE course curriculum, and experience supporting the development of technical deliverables. The RDA will coordinate with the Metabiota Project team to assist in preparation for and execute of in person review of progress with DTRA CBEP representation at iterations of 30% and 60% completeness for both deliverables. The RDA will be present at all relevant project stakeholder calls and will communicate regularly with the PM providing progress reports on a weekly basis. Hours proposed for this labor category are based on a best estimate for effectively and efficiently executing the requirements. Should these hours not be required for this project, the government will not be billed for them.

Materials
Metabiota will not incur any material costs under this technical direction

Other Direct Costs
Metabiota will not incur any other direct costs under this technical direction

Subcontracts
Subcontracts will be issued to the SME and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories.

Travel
Metabiota will not incur any travel costs under this technical direction

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $0

12a. CURRENT PERIOD OF PERFORMANCE

21-Mar-2016 – 15-May-2016

12b. TD REV PERIOD OF PERFORMANCE

DD MMM YYYY – DD MMM YYYY

13. CONTRACTO[redacted] DATE

(b)(6)

Signa

Date: 15 March 2016

14. REGION

AFRICOM / South Africa

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd Stop 6201
Fort Belvoir, VA 22060 6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a. TD NUMBER	3b. REV
HDTRA1-14-C-0104	METABIOTA	23	

4. TD TITLE	5. TOTAL TD ESTIMATE
South Africa One Health Epidemiology Short Course Curriculum Updates and Edits	HOURS 700 DOLLARS $ 110,000

6. CONTRACTING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME (b)(6)	NAME (b)(6)
PHON (b)(6) MAIL (b)(6)	PHON EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 2 PAGES):

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The final deliverable (CDRL A003) is the complete and updated short course curriculum, which is comprised of the basic level track, the advanced level track, and the ToT module. Metabiota shall conduct an in-person review of the curriculum and the status of updates twice – once at 30% complete (CDRL A001), and again at 60% complete (CDRL A002). These in-person reviews will provide DTRA CBEP with the ability to review the status of the curriculum updates and make comments or requests to shape the direction of the updates. DTRA CBEP will give Metabiota its comments no sooner than 2 weeks (10 business days) after the in-person review.

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The period of performance for this effort will be from 3/21/16 to 5/15/16. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $110,000 is requested by 3/15/16. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

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Key Assumptions

1. Metabiota assumes changes to the budget (e.g., labor categories) will be acceptable to DTRA. An RDA was added to support coordination and provide flexibility when implementing. A second RDA was added to support technical development of project deliverables; however, neither of these changes has affected the overall project budget.
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5. Regular or incidental communication with South African Stakeholders involved in TD 010 under AEP will not need to be built into the project plan.

Work Plan Development (Task 1, 3, and 4)
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Upon approval of the TD, the Metabiota PM and PC will engage DTRA CBEP to ensure a mutual understanding of project goals and objectives are realized, as well as to obtain the concept notes referred to in Box 8. Metabiota will additionally engage with the identified SMEs as well as other key South African stakeholders to obtain additional information for the augmentation of the training materials as needed. The Metabiota PM, PC, and SMEs will participate in regular project communications with stakeholders to ensure mutual understanding of project goals, actions, and status.

Metabiota SMEs will conduct a review of the One Health Epidemiology Landscape Analysis and TD-010 SME materials review notes to establish a baseline for materials augmentation planning. The Metabiota PM will then conduct a series of data calls with the South African stakeholders in order for the SMEs familiarize themselves with the the identified stakeholder needs and obtain feedback on anticipated milestones as needed. In doing so, the Metabiota SMEs will identify an appropriate path forward for OHE training materials augmentation work plan. This work plan will identify a timeline of implementation and key milestones and goals for the augmentation of the One Health Epidemiology (OHE) short course curriculum and the development of an associated Train the Trainer (ToT) module. The Metabiota PM will submit the work plan draft(s) to DTRA CBEP for review and approval.

Updating One Health Epidemiology Short Course Curriculum (Task 1, 3, and 4)
Metabiota SMEs will adapt the existing One Health Epidemiology short course curriculum to reflect improvements and updates identified SMEs and South African stakeholders as described in the South African One Health Epidemiology Landscape Analysis (AEP TD-010). SMEs engaged for this effort will incorporate relevant alterations, additions, and updates to the OHE curriculum originally developed by WRAIR for both Kenya and Uganda. Based on needs identified by the landscape analysis, the improvements will ensure both relevance and congruency of OHE training within the greater South African public health training environment. To this end, Metabiota will endeavor to modify and bolster the existing curriculum into dual track short courses described in more detail below:

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An updated OHE training short course based on the existing materials developed by WRAIR, but purposed for professionals possessing some significant knowledge base of One Health Epidemiology concepts. This track will introduce professionals working within any One Health related sector to advanced principles and practices of One Health and applied epidemiology. This course will provide trainees with a thorough understanding of select agents and an advanced understanding of those which are of relevance to South Africa. Metabiota has preliminarily decided, based on best estimates for feasibility and effectiveness, to focus on the incorporation of disease examples that include CCHF, and Tick-borne Rickettsia; however, the use of these diseases in training course material should be subject to reevaluation as the project progresses.

Developing a Training-of-Trainers Module (Task 1, 3, and 4)
Metabiota will design and develop a Training-of-Trainers (ToT) module specifically purposed to support the onboarding of future One Health Epidemiology Republic of South Africa trainers. SMEs engaged for this effort will have extensive training program development experience and will ensure that this module has specific relevance to the both basic and advanced tracks for One Health Epidemiology training in South Africa. This course will provide OHE trainers with expert knowledge in training administration beyond what could be gleaned from completing either track. The ToT module will be designed for South African local nationals, and will be purposed to support the long term sustainability of OHE in-country. The module will be designed to a support trainee commitment of three days or less.

In support of quality assurance towards the development of these final deliverables, Metabiota will conduct two in person progress reviews with DTRA CBEP. These reviews will be presented to DTRA CBEP at iterations of 30% and 60% full course completion. These reviews will allow for more direct and sustained influence from DTRA CBEP over the final project deliverable. The final deliverable for this effort will comprise a OHE training short course adapted to the South African Landscape. This course will be complete with a ToT module and will have both a basic and advanced track purposed respectively for those with little or significant knowledge of One Health Epidemiology concepts.

Project Closeout (Task 1, 3, and 4)
Metabiota PM, PC, and SMEs will all contribute inputs to a final report relaying all actions taken for project implementation through all phases, lessons learned, and identifying next step opportunities upon completion of all deliverables. The Metabiota PM will submit this report to the DTRA CBEP.

Risk Management (Task 1)
In order to anticipate and overcome obstacles included (but not limited to) those listed in Risk Management Matrix found in the attached Supplemental Information Section 3, Metabiota has identified and captured the risks associated with implementing this activity, including contingency planning and course correction measures which will lead to overall regional risk reduction as outlined in the below Risk Management Matrix.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN)

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$112,883
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$112,883.29**

Commented [esk1]: Please clarify this reference. Metabiota should have all documentation from TD-10

Commented [esk2]: Should be completed. Please clarify what additional actions are needed for this outside of what has been done in TD-10

Commented [esk3]: Please clarify. Metabiota should already have comprehensive understanding and analysis of the Landscape Analysis Report because they are the originating author. Further, please elaborate on which RSA stakeholders you plan to engage, what questions will be asked, and what are the intended objectives of those conversations that were not previously met in TD-10

Commented [esk4]: For the three comments above, please take into account how adjustments would reduce required hours.

Commented [esk5]: Please provide justification for these diseases over others (eg: Rift Valley Fever, Brucella, Avian Influenza, Q Fever, etc)

Commented [esk6]: Same question as detailed comment esk5 above.

Commented [esk7]: To mitigate Risk #3 in the attached matrix, please highlight when the development of a ToT module is expected to start and that the task will not start until CBEP has given direction and agreement to proceed. Please keep this as a topic on the regularly scheduled phone calls with CBEP CM so the team is tracking money and hours being spent. If there's enough room in the hours budget to enact the ToT module, we will do so in a timely manner. This task is to commence only upon DTRA CBEP CM direction to proceed.

9c. TD SOLUTION BAS S OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

All Phases:
Task 1—Project Coordination: Metabiota will provide consistent and cohesive technical and administrative leadership direction, program management, implementation oversight, and coordination of all project activities

Metabiota Program Manager (PM): The Metabiota PM will provide direct oversight of the planning and execution of the program ensuring all objectives are met in accordance with the project SOW maintaining scope, budget and timeline. The PM will ensure completion of DTRA CBEP goals at the country and regional level in direct support of this activity and the DTRA CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the RDA and SMEs to ensure all day-to-day activities for the project are completed on time, and to the quality required by DTRA CBEP.

Metabiota Project Coordinator: The Metabiota Research and Data Analyst (RDA) will act as a Project Coordinator (PC) throughout the proposal development, planning, and execution of project objectives. The PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to DTRA CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will manage the SMEs and lead coordination with the South African Stakeholders, to include leading regular coordination calls with the project team and assist in participant coordination

Note* - Metabiota recognizes that the RDA labor category was not included to Box 8 of this TO. Upon review of internal support (e.g., Project Coordinators) and to allow greater project implementation flexibility, Metabiota has proposed the use of an RDA to support all project coordination. Importantly, while hours have been added for project coordination, the overall cost for the Project Coordinator role remains unchanged.

A key requirement to ensure effective program initiation, execution and closeout is ensuring clear communication between all project stakeholders. To ensure the project in managed according to CBEP standards, the PM and PC will be responsible for the following:

Initiation and Program Integration. The PM, with PC support, developed the project proposal to include the project timeline, identification and integration of project requirements, deliverables subcontractors, and SMEs to ensure project success. Upon acceptance of the proposal, the PM will hold a kick off meeting with team members and partners to review the project plan and schedule, establish routine communication to support project implementation, initiate education on the contract requirements and begin project implementation. Routine communication with all stakeholders will ensure that all deliverables, including required CDRLs are met and submitted according to the project schedule and contract requirements.

The PM and PC will work closely with the project stakeholders to understand their respective vision for this effort, including the development of a work plan for implementing all identified activities. In addition the PM and PC will coordinate communication between the SME's (e.g., project team members) to ensure alignment of project plans with DTRA CBEP goals. Lastly, the PM and PC will coordinate all aspects of this project by interfacing regularly (see Communication Management Appendix A Section 2.2) with project personnel to ensure that in country and overall project objectives and requirements are met in full. The PM will ensure that SMEs are engaged according to contract and project requirements and have the experience, background, and skills necessary to support project implementation.

The PM will ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include: overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and/or independent consultants throughout the span of the project

Commented [esk8]: No subcontractors were identified in the labor breakdown. Is this template language or does Metabiota plan on employing subcontractors for this effort? If so, in what capacity and to what extent?

Project Closeout The Metabiota PM and PC will oversee project closeout, to include wrap up of materials development, finalization of deliverables, and final reports. The PM will also ensure the conclusion of subcontracts and other employment agreements.

Additional communication strategies and programmatic safeguards including 1) Human Resources Management, 2) Communications Management 3) Risk Management 4) Schedule Management 5) Cost Management, 6) Quality Management, and 7) Technical Resource Management can be found in Appendix A (Supplemental Information)

Task 4 – Subject Matter Experts (SMEs): Metabiota SMEs will provide ongoing technical support and expertise through the use of SMEs, to include the development of 1) a work plan for implementing all identified activities, 2) augmentation of OHE training materials, and 3) development of ToT module.

Metabiota Subject Matter Expert II will act as a technical lead in the updating of One Health Epidemiology Short Course Curriculum. The SME will coordinate with the Metabiota project team to develop a work plan including detailed milestones and timelines for updating the OHE short course curriculum. With the support of additional SMEs (billed at a Trainer I and RDA), the SME II will lead the final development of both the basic track and advanced track courses. The SME engaged for this effort will have a terminal degree in the field of epidemiology, an understanding of the One Health philosophy, extensive knowledge of the South African epidemiology training landscape, a full and in-depth knowledge of the existing OHE course curriculum, and cognizance of the exact needs for materials improvement. The SME II will assist the Metabiota PM and PC team in the preparation and delivery of an in-person review of progress with DTRA CBEP representation at iterations of 30% and 60% completeness. The SME II will be present at all relevant project stakeholder calls and will communicate regularly with the Metabiota PM providing progress reports on a weekly basis. The Metabiota SME II will support technical aspects of proposal development. In line with government guidance, the SME will be billing at the SME II labor rate.

The Metabiota SME II will additionally serve in a technical support capacity towards the development of the ToT Module. The SME II will communicate regularly with the Metabiota PM and PC regarding any progress and challenges on a weekly basis. Hours proposed for this labor category are based on a best estimate for effectively and efficiently executing the requirements. Should these hours not be required for this project, the government will not be billed for them.

The Metabiota Trainer I will act as a technical lead in the development of a One Health Epidemiology Short Course ToT module. The Trainer I will coordinate with the PM and PC to develop a project plan and timeline for the development of this module, and will lead the final development of this course. The Trainer I engaged for this effort will have an extensive understanding of the One Health philosophy and experience designing and implementing novel ToT training modules. The Trainer I will coordinate with the Metabiota PM and PC to prepare for and execute an in person review of progress with DTRA CBEP representation at iterations of 30% and 60% completeness. The Trainer I will be present at all relevant project stakeholder calls and will communicate regularly with the PM providing progress reports on a weekly basis

The Metabiota Trainer I will additionally serve in a technical support capacity towards the development of the updates of the One Health Epidemiology Short Course Basic and Advanced Curriculum. The Trainer I will communicate regularly with the Metabiota PM and PC regarding any progress and challenges on a weekly basis. Hours proposed for this labor category are based on a best estimate for effectively and efficiently executing the requirements. Should these hours not be required for this project the government will not be billed for them.

The Metabiota RDA will act as technical support in the augmentation of the One Health Epidemiology Short Course Basic and Advanced Curriculum and the development of OHE ToT module. The RDA will attend coordination meetings with all members of the project team in support of the development of project plans and timelines for the development of each deliverable. The RDA engaged for this effort will have a an understanding of the One Health philosophy and epidemiology, a knowledge of the existing OHE course curriculum, and experience supporting the development of technical deliverables. The RDA will coordinate with the Metabiota Project team to assist in preparation for and execute of in person review of progress with DTRA CBEP representation at iterations of 30% and 60% completeness for both deliverables. The RDA will be present at all relevant project stakeholder calls and will communicate regularly with the PM providing progress reports on a weekly basis. Hours proposed for this labor category are based on a best estimate for effectively and efficiently executing the requirements. Should these hours not be required for this project, the government will not be billed for them.

Materials
Metabiota will not incur any material costs under this technical direction

Other Direct Costs
Metabiota will not incur any other direct costs under this technical direction

Subcontracts
Subcontracts will be issued to the SME and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories

Travel
Metabiota will not incur any travel costs under this technical direction

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	CDCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL)

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV
$ $0

12a. CURRENT PERIOD OF PERFORMANCE
21-Mar-2016 – 15-May-2018

12b. TD REV PERIOD OF PERFORMANCE
DD MMM YYYY DD MMM YYYY

13. CONTRACTOR SIGNATURE AND DATE
Signature
Date

14. REGION
AFRICOM / South Africa

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions. Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	23	

4. TD TITLE	5. TOTAL TD ESTIMATE:
South Africa One Health Epidemiology Short Course Curriculum Updates and Edits	HOURS: **700** DOLLARS: $ **110,000**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)	PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to implement revisions (identified in TD-10) to the Walter Reed Army Institute of Research (WRAIR) Epidemiology Short Course curriculum as this material will be transformed into an adapted One Health Epidemiology Short Course, tailored for South Africa in accordance with SOW, Section 4.4, Task 1, 3, and 4.

In a follow-on to TD-10, where the Metabiota team identified the edits and revisions necessary to update the WRAIR Epidemiology short course, TD-23 requests Metabiota to now execute those edits and revisions and develop a comprehensive One Health Epidemiology (OHE) short course. The short course is intended for health professionals in South Africa who require knowledge of OHE, but are not able or eligible to be part of the Centers for Disease Control and Prevention's Field Epidemiology Training Program (FETP). The short course shall include a One Health introductory module with two tracks – (1) One basic level track for professionals who are completely new to the OHE concept and need comprehensive tutorials on basic skills, and (2) One advanced level track for professionals who are more knowledgeable about OHE but require more in-depth training. Each track shall have two disease case studies involving zoonotic diseases of security concern which directly affect South Africa. Both the basic level and advanced tracks shall touch upon the same two diseases, but at different levels of detail appropriate for the intended track participants. Metabiota shall propose the two most appropriate zoonotic diseases based on relevance to South African partners and the region, and alignment with the needs identified in the Landscape Analysis conducted by Metabiota under TD-10 during the February 2016 interviews of stakeholders in Pretoria and Johannesburg. Thorough justification for the two suggested diseases shall be included in the proposal in response to this TD. DTRA CBEP will ultimately determine the two diseases to be included. The updated OHE short course curriculum shall include all of the identified changes from the Landscape Analysis. Over 1305 business hours, it is assumed that it will take 0.15 FTE of an SME II and 0.1 FTE of a Trainer I to adapt the curriculum.

In addition to updating the OHE short course curriculum, Metabiota shall develop a Train the Trainer (ToT) module to be delivered to the selected South African trainers of the OHE short course. The ToT module shall be able to be conducted over a 2-3 day ToT session. This TD does not include implementation or delivery of the ToT module or either OHE short course track and is for the development of materials only. Over 1305 business hours, it is assumed that it will take 0.1 FTE of an SME II and 0.15 FTE of a Trainer I to adapt the curriculum.

The final deliverable (CDRL A003) is the complete and updated short course curriculum, which is comprised of the basic level track, the advanced level track, and the ToT module. Metabiota shall conduct an in-person review of the curriculum and the status of updates twice – once at 30% complete (CDRL A001), and again at 60% complete (CDRL A002). These in-person reviews will provide DTRA CBEP with the ability to review the status of the curriculum updates and make comments or requests to shape the direction of the updates. DTRA CBEP will give Metabiota its comments no sooner than 2 weeks (10 business days) after the in-person review.

Throughout the curriculum update process, Metabiota shall continue coordinating with DTRA CBEP's South Africa engagement Country Manager on a weekly basis. Metabiota shall continue to coordinate with CDC-South Africa, the United States Department of Agriculture, and South African stakeholders on an as-needed basis via electronic and phone communications. No travel shall be required.

The period of performance for this effort will be from 3/21/16 to 5/15/16. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $110,000 is requested by 3/15/16. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation (Task 1)

Metabiota developed a project plan and implementation strategy that aligns with narrative from Box 8. It is anticipated that the plan for TD-023 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM), Subject Matter Expert (SME II) and Project Coordinator (PC, billed as a Research and Data Analyst (RDA)) time to identify the optimal strategy, including required deliverables and other programmatic requirements, which may be a part of project implementation.

Key Assumptions

1. Metabiota assumes changes to the budget (e.g., labor categories) will be acceptable to DTRA. An RDA was added to support coordination and provide flexibility when implementing. A second RDA was added to support technical development of project deliverables; however, neither of these changes has affected the overall project budget.
2. Metabiota assumes that the stated period of performance Period of Performance ending May 15, 2016 will be extended through Nov 15, 2016 contingent upon the approval of Metabiota's AEP contract extension.
3. The breadth of material updates will be based on, but not entirely limited to those stated within the "One Health Epidemiology Landscape Analysis" developed during TD-010 under AEP.
4. In person reviews requested by DTRA CBEP at iterations of 30% and 60% completeness will yield comments and direction reasonable for incorporation and conducive to existing project constraints.
5. Regular or incidental communication with South African Stakeholders involved in TD-010 under AEP will not need to be built into the project plan.

Work Plan Development (Task 1, 3, and 4)
The Metabiota PM and PC coordinated with (b)(6) VP Science Integration, and our regional partner network to identify the appropriate SMEs in One Health Epidemiology to develop and augment the existing One Health Epidemiology (OHE) training materials as described in Box 8 and through coordination with DTRA CBEP AFRICOM.

Upon approval of the TD, the Metabiota PM and PC will engage DTRA CBEP to ensure a mutual understanding of project goals and objectives. The Metabiota PM, PC, and SMEs will participate in regular project communications with stakeholders to ensure mutual understanding of project goals, actions, and status. Metabiota believes we are in possession of relevant documentation, including reports and stakeholder feedback following completion of TD-010, needed to implement the requirements identified in Box 8 of this TD (e.g., TD-023). As materials are being revised, it is possible that questions requiring RSA stakeholder feedback may arise. In this unlikely scenario, Metabiota will engage DTRA CBEP POC's prior to communicating with any RSA stakeholders.

Metabiota SMEs engaged for this effort will have e comprehensive understanding of the already developed One Health Epidemiology Landscape Analysis and TD-010 SME materials review notes prior to any material adaptation and Training-of-Trainer (ToT) course development planning. The Metabiota PM and SME II, who were involved in the execution of TD-010, will serve as informational focal points for other project personnel requiring additional landscape knowledge. The Metabiota SMEs will develop a project work plan outlining the appropriate path forward for tailoring OHE training materials and ToT Module development. This work plan will identify a timeline of implementation and key milestones and goals for the adaptation of the One Health Epidemiology (OHE) short course curriculum and the development of an associated ToT module. The Metabiota PM will submit the work plan draft(s) to DTRA CBEP for review and approval no later than 20 business days after TD-023 approval.

Updating One Health Epidemiology Short Course Curriculum (Task 1, 3, and 4):
Metabiota SMEs will adapt the existing One Health Epidemiology short course curriculum to reflect improvements and updates identified SMEs and South African stakeholders as described in the South African One Health Epidemiology Landscape Analysis (AEP TD-010). SMEs engaged for this effort will incorporate relevant alterations, additions, and updates to the OHE curriculum originally developed by WRAIR for both Kenya and Uganda. Based on needs identified by the landscape analysis, the improvements will ensure both relevance and congruency of OHE training within the greater South African public health training environment. To this end, Metabiota will endeavor to modify and bolster the existing curriculum into dual track short courses described in more detail below:

(1) *One Health Epidemiology Training, Republic of South Africa-Basic*
An updated OHE training short course based on the existing materials developed by WRAIR, but purposed for professionals new to the concept of One Health Epidemiology. This track will introduce professionals working within any One Health related sector to basic principles and practices of One Health and applied epidemiology. This course will offer trainees a basic understanding of select agents and, notably, provide them with a core understanding of those which are highly relevant to South Africa. Leveraging information gained in TD-010, Metabiota has tentatively decided to focus on incorporating disease example modules that include (1) Rift Valley Fever (RFV) and (2) Avian influenza.

(2) *One Health Epidemiology Training, Republic of South Africa-Advanced*
An updated OHE training short course based on the existing materials developed by WRAIR, but purposed for professionals possessing some significant knowledge base of One Health Epidemiology concepts. This track will introduce professionals working within any One Health related sector to advanced principles and practices of One Health and applied epidemiology. This course will provide trainees with a thorough understanding of select agents and an advanced understanding of those which are of relevance to South Africa. Leveraging information gained in TD-010, Metabiota has preliminarily dec ded to focus on the incorporation of disease example modules that include (1) RFV and (2) Avian influenza.

Developing a Training-of-Trainers Module (Task 1, 3, and 4)
Metabiota will design and develop a ToT module specifically purposed tc support the onboarding of future One Health Epidemiology Republic of South Africa trainers. SMEs engaged for this effort will have extensive training program development experience and will ensure that this module has specific relevance to the both basic and advanced tracks for One Health Epidemiology training in South Africa. This course will provide OHE trainers with expert knowledge in training administration beyond what could be g eaned from completing either track. The ToT module will be designed for South African local nationals, and will be purposed to support the long term sustainability of OHE training in-country. The module will be designed to a support trainee commitment of three days or less. Importantly, and in an effort to mitigate any potential risks regarding available LOE, Metabiota will not begin development of the ToT Module until official notice to proceed is issue by the DTRA CBEP Country Manager. Once approved to do so, Metabiota will initiate the OHE curriculum adaptations and provide DTRA CBEP with regular updates during bi-weekly communications concerning cost and schedule. Based on these updates, DTRA CBEP will determine if sufficient funds exist to enact the development of the ToT module. Upon direction from DTRA CBEP, Metabiota will commence this activity in an efficient and timely manner.

In support of quality assurance towards the development of these final deliverables, Metabiota will conduct two in-person progress reviews with DTRA CBEP. These reviews will be presented to DTRA CBEP at iterations of 30% and 60% full course completion. These reviews will allow for more direct and sustained influence from DTRA CBEP over the final project deliverable. The final deliverable for this effort will comprise a OHE training short course adapted to the South African Landscape. This course will be complete with a ToT module and will have both a basic and advanced track purposed respectively for those with little or significant knowledge of One Health Epidemiology concepts.

Project Closeout (Task 1, 3, and 4)
Metabiota PM, PC, and SMEs will all contribute inputs to a final report relaying all actions taken for project implementation through all phases, lessons learned, and identifying next step opportunities upon completion of all deliverables. The Metabiota PM will submit this report to the DTRA CBEP.

Risk Management (Task 1)
In order to anticipate and overcome obstacles included (but not limited to) those listed in Risk Management Matrix found in the attached Supplemental Information Section 3, Metabiota has identified and captured the risks associated with implementing this activity, including contingency planning and course correction measures which will lead to overall regional risk reduction, as outlined in the below Risk Management Matrix.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$112,883
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		##########

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

All Phases:
Task 1—Project Coordination: Metabiota will provide consistent and cohesive technical and administrative leadership, direction, program management, implementation oversight, and coordination of all project activities.

Metabiota Program Manager (PM): The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of DTRA CBEP goals at the country and regional level in direct support of this activity and the DTRA CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the RDA and SMEs to ensure all day-to-day activities for the project are completed on time, and to the quality required by DTRA CBEP.

Metabiota Project Coordinator: The Metabiota Research and Data Analyst (RDA) will act as a Project Coordinator (PC) throughout the proposal development, planning, and execution of project objectives. The PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to DTRA CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will manage the SMEs and lead coordination with the South African Stakeholders, to include leading regular coordination calls with the project team and assist in participant coordination.

Note* - Metabiota recognizes that the RDA labor category was not included to Box 8 of this TD. Upon review of internal support (e.g., Project Coordinators) and to allow greater project implementation flexibility, Metabiota has proposed the use of an RDA to support all project coordination. Importantly, while hours have been added for project coordination, the overall cost for the Project Coordinator role remains unchanged.

A key requirement to ensure effective program initiation, execution, and closeout is ensuring clear communication between all project stakeholders. To ensure the project in managed according to CBEP standards, the PM and PC will be responsible for the following:

Initiation and Program Integration: The PM, with PC support, developed the project proposal to include the project timeline, identification and integration of project requirements, deliverables, subcontractors, and SMEs to ensure project success. Upon acceptance of the proposal, the PM will hold a kick-off meeting with team members and partners to review the project plan and schedule, establish routine communication to support project implementation, initiate education on the contract requirements, and begin project implementation. Routine communication with all stakeholders will ensure that all deliverables, including required CDRLs, are met and submitted according to the project schedule and contract requirements.

The PM and PC will work closely with the project stakeholders to understand their respective vision for this effort, including the development of a work plan for implementing all identified activities. In addition, the PM and PC will coordinate communication between the SME's (e.g., project team members) to ensure alignment of project plans with DTRA CBEP goals. Lastly, the PM and PC will coordinate all aspects of this project by interfacing regularly (see Communication Management Appendix A Section 2.2) with project personnel to ensure that in-country and overall project objectives and requirements are met in full. The PM will ensure that SMEs are engaged according to contract and project requirements, and have the experience, background, and skills necessary to support project implementation.

The PM will ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include; overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and/or independent consultants throughout the span of the project.

Project Closeout: The Metabiota PM and PC will oversee project closeout, to include wrap-up of materials development, finalization of deliverables, and final reports. The PM will also ensure the conclusion of subcontracts and other employment agreements.

Additional communication strategies and programmatic safeguards, including 1) Human Resources Management, 2) Communications Management, 3) Risk Management, 4) Schedule Management, 5) Cost Management, 6) Quality Management, and 7) Technical Resource Management can be found in Appendix A (Supplemental Information).

Task 4—Subject Matter Experts (SMEs): Metabiota SMEs will provide ongoing technical support and expertise through the use of SMEs, to include the development of 1) a work plan for implementing all identified activities, 2) augmentation of OHE training materials, and 3) development of ToT module.

Metabiota Subject Matter Expert II will act as a technical lead in the updating of One Health Epidemiology Short Course Curriculum. The SME will coordinate with the Metabiota project team to develop a work plan, including detailed milestones and timelines, for updating the OHE short course curriculum. With the support of additional SMEs (billed at a Trainer I and RDA), the SME II will lead the final development of both the basic track and advanced track courses. The SME engaged for this effort will have a terminal degree in the field of epidemiology, an understanding of the One Health philosophy, extensive knowledge of the South African epidemiology training landscape, a full and in-depth knowledge of the existing OHE course curriculum, and cognizance of the exact needs for materials improvement. The SME II will assist the Metabiota PM and PC team in the preparation and delivery of an in-person review of progress with DTRA CBEP representation at iterations of 30% and 60% completeness. The SME II will be present at all relevant project stakeholder calls and will communicate regularly with the Metabiota PM providing progress reports on a weekly basis. The Metabiota SME II will support technical aspects of proposal development. In line with government guidance, the SME will be billing at the SME II labor rate.

The Metabiota SME II will additionally serve in a technical support capacity towards the development of the ToT Module. The SME II will communicate regularly with the Metabiota PM and PC regarding any progress and challenges on a weekly basis. Hours proposed for this labor category are based on a best estimate for effectively and efficiently executing the requirements. Should these hours not be required for this project, the government will not be billed for them.

The Metabiota Trainer I (SAFOSO AG) will act as a technical lead in the development of a One Health Epidemiology Short Course ToT module, upon receipt of TD approval. For this effort, Metabiota has engaged SAFOSO AG as our expert team of trainers. SAFOSO recently supported CBEP-funded African Swine fever outreach program in coordination with Metabiota, BTRIC contractors, and four teams of scientists from CBEP engaged FSU countries (e.g., Armenia, Georgia, Kazakhstan, and Ukraine). Members of SAFOSO developed and led all elements of training for this activity. The Trainer I will coordinate with the PM and PC to develop a project plan and timeline for the development of this module, and will lead the final development of this course. The Trainer I engaged for this effort will have an extensive understanding of the One Health philosophy and experience designing and implementing novel ToT training modules. The Trainer I will coordinate with the Metabiota PM and PC to prepare for and execute an in person review of progress with DTRA CBEP representation at iterations of 30% and 60% completeness. The Trainer I will be present at all relevant project stakeholder calls and will communicate regularly with the PM providing progress reports on a weekly basis.

The Metabiota Trainer I will additionally serve in a technical support capacity towards the development of the updates of the One Health Epidemiology Short Course Basic and Advanced Curriculum. The Trainer I will communicate regularly with the Metabiota PM and PC regarding any progress and challenges on a weekly basis. Hours proposed for this labor category are based on a best estimate for effectively and efficiently executing the requirements. Should these hours not be required for this project, the government will not be billed for them.

The Metabiota RDA will act as technical support in the augmentation of the One Health Epidemiology Short Course Basic and Advanced Curriculum and the development of OHE ToT module. The RDA will attend coordination meetings with all members of the project team in support of the development of project plans and timelines for the development of each deliverable. The RDA engaged for this effort will have an understanding of the One Health philosophy and epidemiology, a knowledge of the existing OHE course curriculum, and experience supporting the development of technical deliverables. The RDA will coordinate with the Metabiota Project team to assist in preparation for and execute of in person review of progress with DTRA CBEP representation at iterations of 30% and 60% completeness for both deliverables. The RDA will be present at all relevant project stakeholder calls and will communicate regularly with the PM providing progress reports on a weekly basis. Hours proposed for this labor category are based on a best estimate for effectively and efficiently executing the requirements. Should these hours not be required for this project, the government will not be billed for them.

Materials
Metabiota will not incur any material costs under this technical direction

Other Direct Costs
Metabiota will not incur any other direct costs under this technical direction

Subcontracts
Subcontracts will be issued to SAFOSO AG as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories.

Travel
Metabiota will not incur any travel costs under this technical direction

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ $0

12a. CURRENT PERIOD OF PERFORMANCE
21-Mar-2016 – 15-May-2016

12b. TD REV PERIOD OF PERFORMANCE
DD MMM YYYY – DD MMM YYYY

13. CONTRACTOR SIGNATURE AND DATE
Signature:
Date:

14. REGION
AFRICOM / South Africa

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact Details
8. Description of the Technical Directive Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	023	A

4. TD TITLE
South Africa One Health Epidemiology Short Course Curriculum Updates and Edits

5. TOTAL TD ESTIMATE:
HOURS. 700 DOLLARS: $ **$110,000**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-023 from 15 May 2016 to 15 November 2016 at no additional cost. This PoP extension is to provide enough time to continue implementing revisions (identified in TD-10) to the Walter Reed Army Institute of Research (WRAIR) Epidemiology Short Course curriculum as this material will be transformed into an adapted One Health Epidemiology Short Course, tailored for South Africa. Metabota should coordinate directly with the Technical POCs identified below. No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV.
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV.
$ **$110,000**

12a. CURRENT PERIOD OF PERFORMANCE
21-MAR-2016 – 15 MAY 2016

12b. TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE
Signature:
Date: **13 May 2016**

14. REGION
AFRICOM/ South Africa

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X (b)(6)
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

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Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	023	B

4. TD TITLE
South Africa One Health Epidemiology Short Course Curriculum Updates and Edits

5. TOTAL TD ESTIMATE
HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The purpose of this revision is to adjust funding on the CLINs detailed in Block 10 below.

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below

No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 112,206.63		
1003	MATERIALS	$ -		
1004	ODCs	$ 676.65		
1005	TRAVEL			
	TOTAL	**$ 112,883.28**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$112,883.28**

12a. CURRENT PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

12b. TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE
(b)(6)
Signatur
Date: **15 November 2016**

14. REGION
AFRICOM/ South Africa

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
(b)(6)
X
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
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    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

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Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	024	A

4. TD TITLE
Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East and South Asia

5. TOTAL TD ESTIMATE:
HOURS. _160_____ DOLLARS: $ **$49,877.97**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) MAIL (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-024 from 15 May 2016 to 30 June 2016 at no additional cost. This PoP extension is to provide enough time to continue developing a Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East, South Asia and CBEP collaborations in the CENTOM Region Metabiota should coordinate directly with the Technical POCs identified below. No changes to the previously approved proposal are required at this time

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV.
$ **$49,877.97**

12a. CURRENT PERIOD OF PERFORMANCE
01-MAY-2016 – 15 MAY 2016

12b. TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 30-JUN-2016

13. CONTRACTOR SIGNATURE AND DATE
Signature
Date: **13 May 2016**

14. REGION
CENTCOM/ Regional

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
(b)(6)
X
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
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4. Technical Directive Title
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12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

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Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	024	B

4. TD TITLE
Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East and South Asia

5. TOTAL TD ESTIMATE.
HOURS: _____ DOLLARS: $ **$2,000**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE:

7. CONTRACTOR POC
NAME (b)(6)
PHONE
EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE).

This revision extends the Period of Performance (PoP) for TD-024 from 30 June 2016 to 31 July 2016. This PoP extension is to provide enough time to continue developing a Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East, South Asia and CBEP collaborations in the CENTCOM Region and route through DTRA PAO office. In addition, contractor shall add closed caption features to the film narrative and all subsequent copies via various media types develop under this TD not to exceed $2,000. Metabiota should coordinate directly with the Technical POCs identified below. No additional changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES)
Metabiota will continue development of the film narrative highlighting CBEP efforts in the CENTCOM region, and specifically the conference held on the Epigenetics and Genomics of Infectious Diseases in the Middle East and South Asia. To support this effort, an extended PoP through 31 July 2016 is required to ensure completion of the short film, supporting additional time to include closed captioning and voice over options, as well as secure PAO approval prior to release. In direct support of this effort and PAO requirements, Metabiota will continue to engage August II Productions, the vendor responsible for film production, to include a voice over for the f lm narrative and closed captioning.

To facilitate the voice over requirements, August II Productions will secure studio time to record the voice over, being read by (b)(6) for this effort. In addition, (b)(6), Executive Producer at August II Productions will work with Mr. Becker to coach him on professional voice over requirements and execution to ensure a professional narrative and film is achieved. Once the voice over is recorded, Ms. Garner and her editing team will overlay the voice over on the film footage, and complete final edits, as needed, for it's incorporation.

In addition, August II Productions, will provide closed captioning options on the film, per the DTRA PAO office. Production of closed captioning will include creating the transcript of the entire film, caption files, encoding, and ensuring that the final closed captioning film will be accessible on all forms of media, to include straight-play DVD, and digital files for YouTube and other media channels determined necessary and appropriate by DTRA.

To achieve these requirements, the Metabiota PM will augment the services agreement with August II Productions to include both the voice over and closed captioning services. The Metabiota PM and PC will work with August II Productions to realign the schedule in accordance with the PoP and oversee all activities to ensure completion within the assigned timeframe. The Metabiota team will remain in weekly communication with CBEP regional team leads to maintain visibility on project scope and achievements.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$2,000
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$2,000**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES

Materials

Voice Over: Voice over costs include studio time for (b)(6) record the voice over narrative. This will also include time with (b)(6) the Executive Producer for coaching, editing of the script, as needed, and mu tiple readings to ensure a professional and polished product, as well as any additional "takes" required, as the final film is developed, or at the request of the PAO office following review of the product.

Closed Captioning: Closed captioning costs include creating the film transcript, caption files, encoding, and closed captioning compatibility with multiple media options, to include straight-play DVD and digital files. Costs also include any edits or revisions required in the closed captioning transcripts should they be be required during the production of the film, or at the request of the PAO office following review of the product.

No other costs or requirements are deemed necessary at this time.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ 2,000.00		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ 2,000.00**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $2,000.00

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV.

$ $51,877.97

12a. CURRENT PERIOD OF PERFORMANCE

15-MAY-2016 – 30-JUN-2016

12b. TD REV PERIOD OF PERFORMANCE

15-MAY-2016 – 31-JUL-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:

Date: 17 June 2016

14. REGION

CENTCOM/ Regional

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

(b)(6)

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
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12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

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Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	024	C

4. TD TITLE
Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East and South Asia

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$1.27**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE: (b)(6) EMAIL (b)(6)

7. CONTRACTOR POC
NAME (b)(6)
PHON
EMAI (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The purpose of this revision is to increase the ceiling by $1.27 and adjust funding on the CLINs detailed in Block 10 below for closeout.

The period of performance (PoP) for this TD has ended. This revision is part of TD closeout, tracking and invoicing purposes.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES.):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 37,411.19		
1003	MATERIALS	$ 11,780.42		
1004	ODCs	$ -		
1005	TRAVEL	$ 2,685.09		
	TOTAL	**$ 51,876.70**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$1.27**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$51,876.70**

12a. CURRENT PERIOD OF PERFORMANCE
COMPLETED

12b. TD REV PERIOD OF PERFORMANCE
N/A

13. CONTRACTOR SIGNATURE AND DATE
Signature: _____
Date: _____

14. REGION
CENTCOM/ Regional

15. TECHNICAL POINTS OF CONTACT
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
(b)(6)
X
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
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    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

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8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	25	

4. TD TITLE	5. TOTAL TD ESTIMATE:
Technical Writing and Grantsmanship Workshop, Ethiopia	HOURS **374** DOLLARS: $ **61,000**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE: (b)(6) AIL: (b)(6)	PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to develop a writing workshop for Ethiopian collaborators from the Ethiopian Public Health Institute (EPHI) and National Animal Health Diagnostic and Investigation Center (NAHDIC) in accordance with SOW, Section 4.1, 4.2, 4.3, 4.4. This technical directive provides guidance to assist Metabiota in establishing a proposed implementation approach and budget for the period of performance from April 2016 to May 2016. During the PoP, Metabiota shall provide the following

a. Metabiota shall reach out directly to D (b)(6) the main POC from EPHI and (b)(6) (b)(6) he main POC from NAHDIC, to discuss the participant list, as the collaborators have already identified the workshop participants and will provide the names to Metabiota. Metabiota shall provide a PM and a SME1 for the pre-coordination of the workshop. The hours required for the pre-coordination should not exceed 10 hours/week for three weeks each for the PM and the SME1. Communication wit (b)(6) should also include the discussion of the venue and logistic details regarding the imp ementation of the workshop.
b. Metabiota shall use already developed training material for the workshop when possible, including PowerPoint presentations and hands-on exercises aimed at developing grantsmanship skills. For the curriculum planning and the development of new material, if needed, Metabiota shall not exceed a total of 20 hours of one SME1 effort.
c. The in-country writing workshop provided by Metabiota shall cover all aspects and skills within the grant writing process, especially those specific to grants.gov submission system used for the DTRA Fundamental Research for Combating Weapons of Mass Destruction Broad Agency Announcement (FRCWMD-BAA). Specific technical subjects that shall be included in the workshop are: hypothesis development; research proposal development (including the development of an abstract, white paper, and full proposal); literature reviews; identifying appropriate technical methodologies; biosafety and biosecurity requirements; human subjects and animal care and use approval process and requirements; collaboration development; analysis and discussion of expected results; project budgeting; and the grant submission process relevant to Thrust Area 6 of the FRCWMD-BAA through grants.gov. The workshop shall include hands-on assignments which focus on scientific writing and distinguishes the unique styles associated with abstracts, white papers, and full proposals ensuring the participants are fully prepared for future grant proposal development. The writing workshop shall be no more than five (5) days with a maximum number of 15 partner participants, with up to ten (10) participants identified as part o (b)(6) esearch team and up to five (5) participants identified b (b)(6) Metabiota shall provide up to two (2) SME1s (preferably the same per e that were involved in the pre-coordination activities) for in-country presentations and hands-on training of the workshop participants. Both SME1s will be expected to arrive one (1) day prior to the workshop and leave no later than one (1) day after the workshop is completed. It is anticipated that approximately 50 hours/SME will be required for successful in-country preparation and execution of the workshop.
d. Metabiota shall include a final survey incorporating the participants' thoughts on how the workshop helped develop their writing skills as a deliverable to DTRA/CBEP.
e. Following the completion of the workshop, Metabiota shall guide one EPHI-led and one NAHDIC-led team to apply their new skills to develop materials for submission to the BAA (abstract, white paper, full proposal). The EPHI-led team shall draft proposal material for the project that has been in pre-coordination with CBEP: "Prevalence and associated risk factors of Rift Valley and Cr mean-Congo hemorrhagic fever viruses in humans and livestock in pastoral areas in Ethiopia" or a research project of their preference. The NAHDIC-led team shall also draft proposal material for submission to the BAA in alignment with CBEP's research interests and mission scope. Metabiota shall provide remote technical assistance to both teams to apply the lessons learned to develop an abstract, white paper, and full proposal materials for submission to Thrust Area 6 of the FRCWMD-BAA. Metabiota shall provide up to two (2) SME1 (preferably the same personnel who participated in the in-country writing workshop) to receive and review the materials from the Ethiopian partners and to provide comments. The Ethiopian partners and the SMEs shall discuss feedback, via email, telephone or skype, regarding the abstract, white paper, and full proposal on a weekly basis for approximately 10 weeks for a maximum average of 5 hours/week, 50 hours total, per each team (the total hours may be divided unevenly during the 10 week period as the development of the full proposal will take the bulk of the discussion/feedback time). The reviews of the materials shall include not only feedback on the technical aspects of the documents but all aspects of the writing process. Program Management support for activities described in c.-e. Metabiota shall provide a PM the hours required for the PM should not exceed 2 hours/week for eleven weeks
f. If a white paper is requested by DTRA/CBEP, it is expected that EPHI-led and NAHDIC-let teams will submit it in a timely manner without Metabiota's assistance. However, upon receipt of comments or requested revisions of the white paper, Metabiota shall assist the Ethiopian partners in the development of a response to reviewers' comments. It is anticipated that this support may require up to 20 hours total per team to assist in the development of a response to reviewers

Deliverables:

1. Survey of participants incorporating participants' thoughts on the workshop and how it assisted them as scientific writers.
2. Deliverables expected (described in section e. and f.):
   Deliverable #1: Abstract submitted by EPHI-led and NAHDIC-led teams, appropriate to Thrust Area 6 of the DTRA FRCWMD-BAA.
   Deliverable #2: White paper (including any requested clarifications and/or revisions) submitted by EPHI-led and NAHDIC-led teams appropriate for submission to grants.gov and Thrust Area 6 of the DTRA FRCWMD-BAA, if requested following successful review of the submitted abstract.
   Deliverable #3: Full proposals developed by EPHI-led and NAHDIC-led teams appropriate for submission to Thrust Area 6 of the DTRA BAA.

The period of performance for this effort will be from 2 May 2016 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $61,000 is requested by 29 April 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Phase 0: Proposal Development & Initiation (April 27-April 29, 2016)

Metabiota developed a project plan and implementation strategy that aligns with narrative from Box 8. It is anticipated that the plan for TD-025 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as a Research and Data Analyst I RDA)) time to identify the optimal strategy, including required deliverables and other programmatic requirements, which may be a part of project implementation.

The Metabiota PM and PC coordinated wi(b)(6) Metabiota's Executive Vice President (EVP) in charge of Science Integration and communication with our regional scientific networks to identify the appropriate SMEs in technical writing and grantsmanship, to develop and augment project work plans and training materials. Ultimately, this measure was taken to ensure our technical and cost solutions were of the highest quality and sustainable, respectively.

Key Assumptions:

1. Metabiota received unofficial communication supporting an extension of its AEP contract from May 15, 2016 to November 15, 2016, this technical response has been developed with the key assumption that this additional time will be allotted to this project.
2. Metabiota assumes the need to acquire PAO approvals for any and all training materials developed in support of the Technical Writing and Grantsmanship Workshop.
3. The Metabiota project team will receive all necessary or relevant concept notes or supporting documentation associated with this project immediately upon technical approach approval.
4. Metabiota assumes that workshop participants representing EPHI and NAHDIC as Technical Writing and Grantsmanship Workshop participants have already been identified and notified of their potential for inclusion in a 5-day training event.
5. Metabiota assumes that no more than 25% of all training materials developed in support of the Technical Writing and Grantsmanship Workshop will be novel, and that existing developed training materials will be identified and utilized
6. Metabiota will provide SME support to EPHI-led and NAHDIC-led teams for concept development and submission to the BAA, but does not expect to support concept identification.
7. Metabiota assumes that engagement with EPHI and NAHDIC throughout this project will involve a single lead point of contact from each respective organization, and that direct communication with individual team members from these organizations will not be necessary.
8. Metabiota assumes all workshop participants are proficient in English and no translation of materials or interpretation of lectures will be necessary.
9. Metabiota assumes all workshop participants are in possession of a functional Wi-Fi enabled laptop with a standard business productivity software suite (Microsoft Office, Apple iWork, Google Docs).

Phase 1 – Project Coordination and Workshop Preparation (May 9-November 15, 2016)

Sub-Phase 1.1: Stakeholder Coordination (May 9-November 15, 2016)

Upon approval of the TD, Metabiota will engage DTRA CBEP for a project kick-off call to ensure that a mutual understanding of project goals and objectives are realized, ensure that any historical documentation relevant to project implementation is received, and establish a bi-weekly reporting and communication protocol. Metabiota will additionally engage identified Ethiopian points of contact representing EPHI and NAHDIC to establish consensus on project goals and the intended path forward. Metabiota will also establish regular bi-weekly communications with Ethiopian stakeholders and identify an associated communication protocol. In an effort to reduce personnel coordination risk and ensure that effective communication is maintained. Metabiota will clearly identify the expected roles and responsibilities of EPHI and NAHDIC team leaders as the primary and sole contact points for their organizations.

Sub-Phase 1.2: Workshop Materials Development (May 9-June 10, 2016)

Upon approval of the TD, Metabiota will seek existing workshop materials that cover subjects relevant to proposal writing. Metabiota may utilize materials available internally, from open-access sources, or from subcontractors engaged as SMEs. Once selected, Metabiota will review these materials and identify any additions that need to be made. While the workshop will cover proposal writing in general, Metabiota expects to provide some direction on writing to DTRA BAA Thrust Area 6 specifically. In light of this, Metabiota will develop any supplements to the existing workshop material that are necessary to convey this information. Metabiota assumes these supplements will constitute up to 25% new material. The final materials will include PowerPoint presentations and hands-on learning exercises covering hypothesis development, research proposal development, literature reviews, methods selection, biosafety and biosecurity requirements, human and animal subject use requirements, development of collaborations, analysis and discussion of expected results, budget development, and the grant submission process specific to BAA Thrust Area 6. Metabiota will also develop a post-workshop survey to solicit feedback from participants on the relevance and utility of the workshop. Once all materials have been internally reviewed and finalized Metabiota will submit them to DTRA for PAO approval

Deliverables:

- Deliverable 1: Submission of developed post workshop survey to DTRA CBEP representation
- Deliverable 2: Submission of Technical Writing and Grantsmanship Workshop Materials to DTRA CBEP for PAO approval

Sub-Phase 1.3: Workshop Implementation Preparation (May 9-July 22, 2016)

Metabiota expects a total of no more than (15) previously identified participants will be invited to the Technical Writing and Grantsmanship Workshop including no more than (10) representing(b)(6) eam from EPHI and no more than (5) representing(b)(6) team from NAHDIC. Immediately upon engagement with identified Ethiopian stakeholders, Metabiota will work collaboratively with team leads representing EPHI and NAHDIC to clearly identify workshop participants, dates and a location for the event. Metabiota will inform all workshop participants to come prepared with relevant resources including their own personal Wi-Fi-enabled laptop computer with standard business productivity software. Metabiota will develop and submit a Training Event Plan (TEP) detailing this information to DTRA CBEP no later than 60 days prior to workshop implementation. As all in-country logistical support services relevant to this workshop will be coordinated through CLS, Metabiota expects to submit a CLS form detailing all necessary accommodations for all training participants no later than 45 days prior to workshop implementation. Metabiota additionally expects to send two U.S. based project SMEs to Ethiopia to lead the Technical Writing and Grantsmanship Workshop and will submit a Cable Clearance Request (CCR) and Travel Authorization Request to DTRA CBEP representation no later than 45 days prior to scheduled travel for workshop implementation. Metabiota will also develop a pre-travel risk report and gain internal approval from AEP leadership prior to sending any members of its project team to Ethiopia. Additionally, Metabiota SMEs will coordinate with(b)(6) o familiarize themselves with the participants' existing work and to assign them preparatory tasks leading up to the workshop such as brainst s.

Phase 2 – Technical Writing and Grantsmanship Workshop Implementation (July 25-29, 2016)

Metabiota will conduct a five-day workshop on specific aspects of technical writing and grantsmanship in order to train and mentor selected representation from EPHI and NAHDIC. The workshop will help participants improve their general technical writing and grantsmanship skills and provide specific focus on the grants.gov submission system used for the DTRA Fundamental Research for Combating Weapons of Mass Destruction Broad Agency Announcement (FRCWMD-BAA).

Metabiota will accomplish this by sending 2 technical writing and grantsmanship SMEs to the identified training location within Ethiopia to lead the the 5-day Technical Writing and Grantsmanship Workshop. This workshop will include five days of lectures and team specific working group sessions to cover topics including but not limited to: hypothesis development; research proposal development (including the development of an abstract, white paper, and full proposal); literature reviews; identifying appropriate technical methodologies; biosafety and biosecurity requirements; human subjects and animal care and use approval process and requirements; collaboration development; analysis and discussion of expected results, project budgeting, and the grant submission process relevant to Thrust Area 6 of the FRCWMD-BAA through grants.gov. The workshop will include no more than 15 participants (no more than 10 from EPHI, and no more than 5 from NAHDIC) and each participant will have access to, and be able to work directly with the SMEs. The PM will be on-site providing logistical and programmatic support to the SMEs throughout the workshop and will ensure effective integration and overall congruency with CLS representation tasked with supporting the workshop. The PM will be responsible for ensuring the administration of the workshop survey and for collecting and aggregating all survey information. The PM will also provide daily training reports to DTRA CBEP representation and will coordinate with the PC, AEP leadership, and DTRA CBEP representation on a daily basis to ensure that any implementation risks are identified and mitigated appropriately. The PC will support the PM in the development and submission of a Training Trip Report (TTR) no later than 5 days after completion of the workshop.

Deliverables:

- Deliverable 1: Submission of participant survey results to DTRA CBEP representation no later than 10 days' post completion of workshop implementation activities.

Phase 3 – BAA Materials Development (Abstract, White Paper and Full Proposal) (August 1- October 14,2016)

Metabiota expects that the project team leaders representing EPHI and NAHDIC wi work to develop and revise their abstracts as part of the the Grantsmanship workshop, and also expects workshop to begin collaborating with relevant members of their team towards white paper development during the workshop the the best extent possible. Following the workshop, the EPHI-led and NAHDIC-led teams will each submit their abstract to DTRA. The teams will then immediately resume white paper development, regardless of whether or not a white paper has been invited. Each team will designate a lead point-of-contact who will submit the white paper to the SMEs. The SMEs will review the submitted materials and provide specific recommendations for improvement to each POC via phone, email, or Skype. The POCs will be responsible for relaying this information to their team and coordinating the revisions process. Each team will make revisions to the material and the POC will resubmit it to the SMEs for a second review. This process will continue until one of the following occurs: the SMEs deem the white papers are sufficiently well-developed for submission; the end of the project period of performance; or, assuming a white paper has been invited, the white paper submission deadline. Similarly, upon completion of the white papers, the teams will begin full proposal development with review of the technical volumes and budgets by the SMEs.

The project teams will submit the white papers to DTRA independent of SME assistance. Following submission, the project teams will initiate development of full proposals. SMEs will provide guidance and direction to the project POCs and review any draft materials submitted to them. The SMEs will continue to support the project teams in proposal development until the proposal is deemed ready for submission or the end of the Period of Performance is reached.

Deliverables:

- Deliverable 1: Abstract submitted by EPHI-led and NAHDIC-led teams, appropriate to Thrust Area 6 of the DTRA FRCWMD-BAA.
- Deliverable 2: White paper (including any requested clarifications and/or revisions) submitted by EPHI-led and NAHDIC-led teams appropriate for submission to grants.gov and Thrust Area 6 of the DTRA FRCWMD-BAA, if requested following successful review of the submitted abstract.
- Deliverable 3: Two full proposals (total) developed by EPHI-led and NAHDIC-led teams, respectively, appropriate for submission to Thrust Area 6 of the DTRA BAA.

Phase 4 – Project Closeout and White Paper Response Assistance (October 17- November 15, 2016)

Subphase 4.1 White Paper Response Assistance (October 17- November 15, 2016)
Following submission of respective white papers, provide final review and post-workshop support to participants as needed. The EPHI-led and NAHDIC-led teams may receive comments or requests for clarification from DTRA. If the teams receive this feedback within the project PoP, they will submit requests for assistance to the SMEs. After reviewing the feedback, the SMEs will provide the POCs with specific recommendations for addressing the comments. The POCs will coordinate the revisions to the white papers to address the comments and requests for clarification and submit a new draft to the SMEs. Following review, the SMEs will provide final comments or direction as necessary to the POCs.

Subphase 4.2 Final Report Submission (October 17- November 15, 2016)
Concurrently, and as part of closeout procedures, the Metabiota project team will write a final report detailing all actions taken throughout project implementation, lessons learned, and recommended next steps for submission to DTRA CBEP.

Risk Management.
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix:

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
				Cost		
Subject Matter Expert Subcontracting	Due to limited insight into participant profiles and research activities, additional costs and time-delays may occur to identify and coordinate the most appropriate SME coordination, which may impact the ability to conduct this activity in full.	3	3	Medium	Metabiota has preselected SMEs for this effort, and contingent understanding of the participants' work, Metabiota will evaluate the selected SMEs for inclusion. As needed, Metabiota will attempt to reach a basic agreement with SMEs as soon as possible and issue authorization to proceed while subcontracts are being put into place	(b)(4); (b)(6)
Participant Identification and Coordination	Due to Metabiota's limited insight regarding the participants of the Writing and Grantsmanship Workshop, and their respective academic and logistical capacities (i.e. possession of laptops, research tools, previously cited materials, quality of data sources, etc.), it is possible that the quality of improvement for their manuscripts may be hindered.	4	3	Medium-High	Metabiota will ensure that effective coordination and communication with Ethiopian Stakeholders is employed to ensure that a maximal amount of information about the participants, their research, and their respective capacities is garnered before the workshop. This will allow for the controlling of mentioned confounders and a managed increase in efficiency with regard to review and operation.	
Programmatic labor hours	Following guidance from CBEP POC's, the current budget for Metabiota Program Management and Project Coordination hours are extremely low. As a result, and based on previous experience implementing overseas activities, there is significant risk for budget overrun.	5	5	(b)(4); (b)(6)	Metabiota recommends an increase in overall labor hours based on the described tasks and previous performance on similar AEP programmatic work	Low
Technical labor hours	Technical labor hours may be insufficient for the continued mentorship of Ethiopian stakeholders and for the development of workshop materials if they do not exist.	4	5	Medium-High	Metabiota recommends an increase in overall labor hours based on the described tasks and previous performance on similar AEP programmatic work	Low
				Schedule		
Project Coordination	Technical Writing and Grantsmanship Workshop, Ethiopia involves a significant number of stakeholders and participants representing various organizations, putting implementation activities at risk of delay or cancellation.	5	2	Medium	Establish and hold regular calls with all stakeholders and identify multiple possible implementation dates. Identify critical components as early as possible and redirect efforts when it becomes clear that targeted implementation dates will not be achievable.	(b)(4); (b)(6)

Project Timeline	The current project timeline suggests workshop implementation between the dates of July 25-29. Implementation on this date will require near immediate concensus among project stakeholders to support the submission of a training event plan 60 days prior to implementation.	3	4	Medium-High	Metabiota will seek out and establish communciaiton with Ethiopian stakeholders immediately upon approval of the technical direction, and ensure that consensus on workshop implementation dates are established as expediently as possible.	(b)(4); (b)(6)
Performance/Quality						
Political Instability	Sporadic violence near borders and occasionally in the capital may lead to risks of being unable to safely complete in-country work.	2	5	Medium	Coordinate closely with DTRA and AFRICOM to be aware of any potential risks to performers, and target a location for the workshop well away from risky areas.	
Proposal Development	Direction has been given to facilitate the submission of two full proposals developed by EPHI-led and NAHDIC-led teams appropriate for submission to Thrust Area 6 of the DTRA BAA; however, a lack of clarity exists regarding proposed concepts and contributors they may pose a risk to overall submission quality.	3	4	Medium-High	Metabiota will request for all relevant documentation and information from DTRA CBEP immediately upon approval of this technical direction and will work to ensure that concepts and all proposal components are developed to the highest quality possible prior to submission so far as it can.	

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
0002	LABOR	$[illegible]
0003	MATERIALS	$[illegible]
0004	ODCS	$[illegible]
0005	TRAVEL	$[illegible]
TOTAL		$[illegible]

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES)

Period of Performance

The period of performance for this effort is May 2, 2016 – May 15, 2016.

Labor

Costs for direct labor to support this activity is required for the following personnel

All phases

Metabiota Program Manage (b)(6) will provide oversight of the planning and execution of all program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As some of our Subject Matter Experts will be independent consultants, the Metabiota PM will additionally oversee and ensure that all project personnel adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PM will provide management oversight of the project team, including independent consultants throughout the span of the project.

The Metabiota PM will oversee the coordination between the Ethiopian stakeholders and the workshop planning team and will ensure the project team captures and keeps in account stakeholder input regarding key information relevant to the planning of the workshop. The PM will manage any logistic concerns that may arise during the course of the workshop, allowing the SMEs to maintain focus the workshop without interruption. The PM will restrict his time expenditure in country to an operational minimum while ensuring congruency in programmatic support.

Metabiota has budgeted a total 98 hours to the Metabiota PM For the activities described above. General programmatic oversight will require at minimum a 5% level of effort over the course of the 11 weeks to support phase 1 activities. During this time, the PM will be required to lead all weekly communications. The PM will also provide oversight to the PC and project SMEs, in an effort that is estimated to require at least 2 hours per week for a total of 22 during the phase 1. Phase 2 will include workshop implementation activities and will require the PM to commit at least a 50% level of effort during a 1 week period to ensure successful workshop implementation and for the provision of programmatic and logistical support to Project SMEs tasked with leading the workshop for a total of 20 hours . Phase 3 will task the PM to continue leading all stakeholder communications and to provide high level support and oversight to the PC and SMEs throughout post workshop activities. The PM will need to commit to a ~ 7.5% level of effort over 13 weeks for a total of 36 hours. Phase 4 will task the PM to continue leading all stakeholder communications and to provide support and oversight to the PC and SMEs throughout submission of response activities and final report development. The PM will lead the development of the final report with support from the PC and SMEs and will need to commit to at least a 10% level of effort over 4 weeks for a total of 12 hours.

Metabiota Project Coordinator: Calla Martyn will act as Project Coordinator (billed as Research and Data Analyst) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will provide coordination support towards the planning and execution of DTRA CBEP objectives towards the completion of all project goals. The PC will do so by participating in proposal development coordination and by leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The Metabiota PC will be responsible for setting meetings with team members, periodic reporting outreach to all Ethiopian stakeholders, and for recording meeting minutes during all communications. The PC will be responsible for developing all project CDRLs and for working with the PM to ensure their timely submission within the proposed project timeline. The PC will also be responsible for developing and maintaining all living contract documents including schedules, charters, work plans following stakeholder and client meetings.

Metabiota has budgeted a total 116 hours to the Metabiota PC For the activities described above. General programmatic coordination will require at minimum a 10% level of effort over the course of the 11 weeks to support phase 1 activities. During this time, the PC will be required to participate in and record all weekly communications and provide general support to the PM and project SMEs, an effort that is estimated to require at least 4 hours per week for a total of 44 during phase 1. Phase 2 will include workshop implementation activities and will require the PC to remotely support workshop implementation at a 10% level of effort during a 1-week period to ensure successful workshop implementation and transparent reporting to DTRA CBEP representation. Phase 3 will task the PC to continue participating in and recording all stakeholder communications and to provide support PM and SMEs throughout post workshop activities. The PC will need to commit to a ~10% level of effort over 13 weeks for a total of 48 hours. Phase 4 will task the PC to continue participating in and recording all stakeholder communications and to provide support to the PM and SMEs throughout submission response activities and final report development. The PC will need to commit to at least a 10% level of effort over 4 weeks for a total of 12 hours.

Subject Matter Expert I (2 total): The SME Is will be tasked with providing workshop materials, workshop participation, and mentoring of workshop participants following

workshop conclusion. During phase 1 the SMEs will review the workshop materials to make any necessary updates and ensure the materials' relevance to the Ethiopian scientists. It is estimated that the SMEs will need to develop up to 25% original workshop material to supplement existing workshop materials. The hours necessary for this development were estimated using a ratio of 4 hours of development for each hour of contact time

During phase 2 the SMEs will deliver lectures on topics relevant to grant writing and submission, and facilitate small group work based on this content. Phase 3 will commence following workshop completion. During this phase, the SMEs will provide remote support to the POCs for the EPHI and NAHDIC teams in their development of an abstract and white paper suitable for submission to DTRA BAA Thrust Area 6. Upon receipt from the POCs, the SMEs will review the drafts of these documents and provide feedback via telephone, email or skype. During phase 4, following submission of white papers by the EPHI-led and NAHDIC-led teams, the SMEs will provide further assistance to the POCs in responding to any comments or revisions requested by DTRA CBEP.

Metabiota has budgeted a total of 384 hours to the Metabiota SMEs for the activities described above. Project coordination and materials development activities during this phase are estimated to require 46 hours per SME over the course of 15 weeks for a total of 92 hours. The SMEs will be required to participate in regular communication with and provide general support to the PM during phase 1 activities. Phase 2 will include workshop implementation activities and will require the SMEs to be available in country at a 100% level of effort during a 1-week period to ensure successful workshop implementation and transparent reporting to the PM. The SMEs will be required to travel to Ethiopia from the United States for this phase and will spend a 7 full days at a 100% level of effort each. Thus a total of 56 hours per SME will be required for Phase 2. Phase 3 will task the SMEs to continue participating in relevant stakeholder communications and to provide SME support throughout post workshop activities. The SMEs will need to commit no less than 70 hours total over 10 weeks each for a total of 140 hours. Phase 4 will task the SMEs to continue participating in relevant stakeholder communications and to provide support throughout submission response activities. The SMEs will need to commit to at least 5 hours per week over 4 weeks for a total of 20 hours each.

Materials
We have budgeted for an effort based international communications capacity for our project team while they are in country implementing the workshop. The costs budgeted here reflect activating a moderate calling plan to support the efforts of the program manager and subject matter experts.

Other Direct Costs
Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Independent Consulting Agreements
Consulting agreements will be issued to SMEs and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Support is requested for two SMEs to travel to Addis Ababa to implement the writing workshop. The travel budget represents the estimated amount required; travel on the AEP contract is cost reimbursable. Metabiota expects to leverage other requirements for travel in order to have the PM in-country for the grantsmanship workshop at no additional cost.

Our travel budget assumes the workshop will be held on 5 consecutive days. If, through discussion with the Ethiopian stakeholders, and alternative schedule is created or an alternative location is desired, travel costs may be impacted accordingly.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 71,092.60		
1003	MATERIALS	$ 1,579.05		
1004	ODCs	$ 647.16		
1005	TRAVEL	$ 13,639.00		
	TOTAL	**$ 86,957.81**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ **$86,957.81**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$86,957.81**

12a. CURRENT PERIOD OF PERFORMANCE

2- May-2016- 15-May-2016

12b TD REV PERIOD OF PERFORMANCE

2-May-2016 – 15-May-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:_____

Date:_____

14. REGION

AFRICOM/ Ethiopia

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

(b)(6)

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	25	

4. TD TITLE	5. TOTAL TD ESTIMATE:
Technical Writing and Grantsmanship Workshop, Ethiopia	HOURS: **374** DOLLARS: $ **61,000**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME (b)(6)	NAME: (b)(6)
PHONE (b)(6) EMA (b)(6)	PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to develop a writing workshop for Ethiopian collaborators from the Ethiopian Public Health Institute (EPHI) and National Animal Health Diagnostic and Investigation Center (NAHDIC) in accordance with SOW, Section 4.1, 4.2, 4.3, 4.4. This technical directive provides guidance to assist Metabiota in establishing a proposed implementation approach and budget for the period of performance from April 2016 to May 2016. During the PoP, Metabiota shall provide the following:

a. Metabiota shall reach out directly to (b)(6) the main POC from EPHI and (b)(6) the main [illegible] as the collaborators have already [illegible] op participants and will provide the names to Metabiota. Metabiota shall provide a PM and a SME1 for the pre-coordination of the workshop. The hours required for the pre-coordination should not exceed 10 hours/week for three weeks each for the PM and the SME1. Communication with (b)(6) should also include the discussion of the venue and logistic details regarding the implementation of the workshop.
b. Metabiota shall use already developed training material for the workshop when possible, including PowerPoint presentations and hands-on exercises aimed at developing grantsmanship skills. For the curriculum planning and the development of new material if needed, Metabiota shall not exceed a total of 20 hours of one SME1 effort.
c. The in-country writing workshop provided by Metabiota shall cover all aspects and skills within the grant writing process, especially those specific to grants.gov submission system used for the DTRA Fundamental Research for Combating Weapons of Mass Destruction Broad Agency Announcement (FRCWMD-BAA). Specific technical subjects that shall be included in the workshop are: hypothesis development, research proposal development (including the development of an abstract, white paper, and full proposal); literature reviews; identifying appropriate technical methodologies; biosafety and biosecurity requirements; human subjects and animal care and use approval process and requirements; collaboration development; analysis and discussion of expected results; project budgeting; and the grant submission process relevant to Thrust Area 6 of the FRCWMD-BAA through grants.gov. The workshop shall include hands-on assignments which focus on scientific writing and distinguishes the unique styles associated with abstracts, white papers, and full proposals ensuring the participants are fully prepared for future grant proposal development. The writing workshop shall be no more than five (5) days with a maximum number of 15 partner participants, with up to ten (10) participants identified as part of (b)(6) research team and up to five (5) participants identified by (b)(6) Metabiota shall provide up to two (2) SME1s (preferably the same personnel that were involved in the pre-coordination activities) for in-country [illegible]s and hands-on training of the workshop participants. Both SME1s will be expected to arrive one (1) day prior to the workshop and leave no later than one (1) day after the workshop is completed. It is anticipated that approximately 50 hours/SME will be required for successful in-country preparation and execution of the workshop.
d. Metabiota shall include a final survey incorporating the participants' thoughts on how the workshop helped develop their writing skills as a deliverable to DTRA/CBEP.
e. Following the completion of the workshop, Metabiota shall guide one EPHI-led and one NAHDIC-led team to apply their new skills to develop materials for submission to the BAA (abstract, white paper, full proposal). The EPHI-led team shall draft proposal material for the project that has been in pre-coordination with CBEP: "Prevalence and associated risk factors of Rift Valley and Crimean-Congo hemorrhagic fever viruses in humans and livestock in pastoral areas in Ethiopia" or a research project of their preference. The NAHDIC-led team shall also draft proposal material for submission to the BAA in alignment with CBEP's research interests and mission scope. Metabiota shall provide remote technical assistance to both teams to apply the lessons learned to develop an abstract, white paper, and full proposal materials for submission to Thrust Area 6 of the FRCWMD-BAA. Metabiota shall provide up to two (2) SME1 (preferably the same personnel who participated in the in-country writing workshop) to receive and review the materials from the Ethiopian partners and to provide comments. The Ethiopian partners and the SMEs shall discuss feedback, via email, telephone or skype, regarding the abstract, white paper, and full proposal on a weekly basis for approximately 10 weeks for a maximum average of 5 hours/week, 50 hours total, per each team (the total hours may be divided unevenly during the 10 week period as the development of the full proposal will take the bulk of the discussion/feedback time). The reviews of the materials shall include not only feedback on the technical aspects of the documents but all aspects of the writing process. Program Management support for activities described in c.-e. Metabiota shall provide a PM; the hours required for the PM should not exceed 2 hours/week for eleven weeks.
f. If a white paper is requested by DTRA/CBEP, it is expected that EPHI-led and NAHDIC-let teams will submit it in a timely manner without Metabiota's assistance. However, upon receipt of comments or requested revisions of the white paper, Metabiota shall assist the Ethiopian partners in the development of a response to reviewers' comments. It is anticipated that this support may require up to 20 hours total per team to assist in the development of a response to reviewers.

Deliverables:

1. Survey of participants incorporating participants' thoughts on the workshop and how it assisted them as scientific writers.
2. Deliverables expected (described in section e. and f.):
   Deliverable #1: Abstract submitted by EPHI-led and NAHDIC-led teams, appropriate to Thrust Area 6 of the DTRA FRCWMD-BAA.
   Deliverable #2: White paper (including any requested clarifications and/or revisions) submitted by EPHI-led and NAHDIC-led teams appropriate for submission to grants.gov and Thrust Area 6 of the DTRA FRCWMD-BAA, if requested following successful review of the submitted abstract.
   Deliverable #3: Full proposals developed by EPHI-led and NAHDIC-led teams appropriate for submission to Thrust Area 6 of the DTRA BAA.

The period of performance for this effort will be from 2 May 2016 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $61,000 is requested by 29 April 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Phase 0: Proposal Development & Initiation (April 27-April 29, 2016)

Metabiota developed a project plan and implementation strategy that aligns with narrative from Box 8. It is anticipated that the plan for TD-025 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as a Research and Data Analyst (RDA)) time to identify the optimal strategy, including required deliverables and other programmatic requirements, which may be a part of project implementation.

The Metabiota PM and PC coordinated wi(b)(6) Metabiota's Executive Vice President (EVP) in charge of Science Integration and communication with our regional scientific networks to identify the [redacted] technical writing and grantsmanship, to develop and augment project work plans and training materials. Ultimately, this measure was taken to ensure our technical and cost solutions were of the highest quality and sustainable, respectively.

Key Assumptions:

1. Metabiota received unofficial communication supporting an extension of its AEP contract from May 15, 2016 to November 15, 2016, this technical response has been developed with the key assumption that this additional time will be allotted to this project.
2. Metabiota assumes the need to acquire PAO approvals for any and all training materials developed in support of the Technical Writing and Grantsmanship Workshop
3. The Metabiota project team will receive all necessary or relevant concept notes or supporting documentation associated with this project immediately upon technical approach approval.
4. Metabiota assumes that workshop participants representing EPHI and NAHDIC as Technical Writing and Grantsmanship Workshop participants have already been identified and notified of their potential for inclusion in a 5-day training event
5. Metabiota assumes that no more than 25% of all training materials developed in support of the Technical Writing and Grantsmanship Workshop will be novel, and that existing developed training materials will be identified and utilized.
6. Metabiota will provide SME support to EPHI-led and NAHDIC-led teams for concept development and submission to the BAA, but does not expect to support concept identification.
7. Metabiota assumes that engagement with EPHI and NAHDIC throughout this project will involve a single lead point of contact from each respective organization, and that direct communication with individual team members from these organizations will not be necessary.
8. Metabiota assumes all workshop participants are proficient in English and no translation of materials or interpretation of lectures will be necessary.
9. Metabiota assumes all workshop participants are in possession of a functional Wi-Fi enabled laptop with a standard business productivity software suite (Microsoft Office, Apple iWork, Google Docs).

Phase 1 – Project Coordination and Workshop Preparation (May 9-November 15, 2016)

Sub-Phase 1.1: Stakeholder Coordination (May 9-November 15, 2016)

Upon approval of the TD, Metabiota will engage DTRA CBEP for a project kick-off call to ensure that a mutual understanding of project goals and objectives are realized, ensure that any historical documentation relevant to project implementation is received, and establish a bi-weekly reporting and communication protocol. Metabiota will additionally engage identified Ethiopian points of contact representing EPHI and NAHDIC to establish consensus on project goals and the intended path forward. Metabiota will also establish regular bi-weekly communications with Ethiopian stakeholders and identify an associated communication protocol. In an effort to reduce personnel coordination risk and ensure that effective communication is maintained Metabiota will clearly identify the expected roles and responsibilities of EPHI and NAHDIC team leaders as the primary and sole contact points for their organizations.

Sub-Phase 1.2: Workshop Materials Development (May 9-June 10, 2016)

Upon approval of the TD, Metabiota will seek existing workshop materials that cover subjects relevant to proposal writing. Metabiota may utilize materials available internally, from open-access sources, or from subcontractors engaged as SMEs Once selected, Metabiota will review these materials and identify any additions that need to be made. While the workshop will cover proposal writing in general, Metabiota expects to provide some direction on writing to DTRA BAA Thrust Area 6 specifically. In light of this, Metabiota will develop any supplements to the existing workshop material that are necessary to convey this information. Metabiota assumes these supplements will constitute up to 25% new material. The final materials will include PowerPoint presentations and hands-on learning exercises covering hypothesis development, research proposal development, literature reviews, methods selection, biosafety and biosecurity requirements, human and animal subject use requirements, development of collaborations, analysis and discussion of expected results, budget development, and the grant submission process specific to BAA Thrust Area 6. Metabiota will also develop a post-workshop survey to solicit feedback from participants on the relevance and utility of the workshop. Once all materials have been internally reviewed and finalized Metabiota will submit them to DTRA for PAO approval.

Deliverables:

- Deliverable 1: Submission of developed post workshop survey to DTRA CBEP representation
- Deliverable 2: Submission of Technical Writing and Grantsmanship Workshop Materials to DTRA CBEP for PAO approval

Sub-Phase 1.3: Workshop Implementation Preparation (May 9-July 22, 2016)

Metabiota expects a total of no more than (15) previously identified participants wil be invited to the Technical Writing and Grantsmanship Workshop including no more than (10) representing(b)(6) m from EPHI and no more than (5) representing(b)(6) team from NAHDIC. Immediately upon engagement with identified Ethiopi will work collaboratively with team leads repres NAHDIC to clearly identify workshop participants, dates and a location for the event. Metabiota will inform all workshop participants to come prepared with relevant resources including their own personal Wi-Fi-enabled laptop computer with standard business productivity software Metabiota will develop and submit a Training Event Plan (TEP) detailing this information to DTRA CBEP no later than 60 days prior to workshop implementation. As all in-country logistical support services relevant to this workshop will be coordinated through CLS, Metabiota expects to submit a CLS form detailing all necessary accommodations for all training participants no later than 45 days prior to workshop implementation. Metabiota additionally expects to send two U.S. based project SMEs to Ethiopia to lead the Technical Writing and Grantsmanship Workshop and will submit a Cable Clearance Request (CCR) and Travel Authorization Request to DTRA CBEP representation no later than 45 days prior to scheduled travel for workshop implementation. Metabiota will also develop a pre-travel risk report and gain internal approval from AEP leadership prior to sending any members of its project team to Ethiopia. Additionally, Metabiota SMEs will coordinate with(b)(6) (b)(6) familiarize themselves with the participants' existing work and to assign them preparatory tasks leading up to the workshop such as brainstorming possible research ideas

Phase 2 – Technical Writing and Grantsmanship Workshop Implementation (July 25-29, 2016)

Metabiota will conduct a five-day workshop on specific aspects of technical writing and grantsmanship in order to train and mentor selected representation from EPHI and NAHDIC. The workshop will help participants improve their general technical writing and grantsmanship skills and provide specific focus on the grants.gov submission system used for the DTRA Fundamental Research for Combating Weapons of Mass Destruction Broad Agency Announcement (FRCWMD-BAA).

Metabiota will accomplish this by sending 2 technical writing and grantsmanship SMEs to the identified training location within Ethiopia to lead the the 5-day Technical Writing and Grantsmanship Workshop. This workshop will include five days of lectures and team specific working group sessions to cover topics including but not limited to: hypothesis development, research proposal development (including the development of an abstract, white paper, and full proposal); literature reviews; identifying appropriate technical methodologies; biosafety and biosecurity requirements; human subjects and animal care and use approval process and requirements; collaboration development; analysis and discussion of expected results; project budgeting; and the grant submission process relevant to Thrust Area 6 of the FRCWMD-BAA through grants.gov. The workshop will include no more than 15 participants (no more than 10 from EPHI, and no more than 5 from NAHDIC) and each participant will have access to, and be able to work directly with the SMEs. The PM will be on-site providing logistical and programmatic support to the SMEs throughout the workshop and will ensure effective integration and overall congruency with CLS representation tasked with supporting the workshop. The PM will be responsible for ensuring the administration of the workshop survey and for collecting and aggregating all survey information. The PM will also provide daily training reports to DTRA CBEP representation and will coordinate with the PC, AEP leadership, and DTRA CBEP representation on a daily basis to ensure that any implementation risks are identified and mitigated appropriately. The PC will support the PM in the development and submission of a Training Trip Report (TTR) no later than 5 days after completion of the workshop.

Deliverables:

- Deliverable 1: Submission of participant survey results to DTRA CBEP representation no later than 10 days' post completion of workshop implementation activities.

Phase 3 – BAA Materials Development (Abstract, White Paper and Full Proposal) (August 1- October 14,2016)

Metabiota expects that the project team leaders representing EPHI and NAHDIC wil work to develop and revise their abstracts as part of the the Grantsmanship workshop, and also expects workshop to begin collaborating with relevant members of their team towards white paper development during the workshop the the best extent possible. Following the workshop, the EPHI-led and NAHDIC-led teams will each submit their abstract to DTRA. The teams will then immediately resume white paper development, regardless of whether or not a white paper has been invited. Each team will designate a lead point-of-contact who will submit the white paper to the SMEs. The SMEs will review the submitted materials and provide specific recommendations for improvement to each POC via phone, email, or Skype. The POCs will be responsible for relaying this information to their team and coordinating the revisions process. Each team will make revisions to the material and the POC will resubmit it to the SMEs for a second review. This process will continue until one of the following occurs: the SMEs deem the white papers are sufficiently well-developed for submission; the end of the project period of performance; or, assuming a white paper has been invited, the white paper submission deadline. Similarly, upon completion of the white papers, the teams will begin full proposal development with review of the technical volumes and budgets by the SMEs.

The project teams will submit the white papers to DTRA independent of SME assistance. Following submission, the project teams will initiate development of full proposals. SMEs will provide guidance and direction to the project POCs and review any draft materials submitted to them. The SMEs will continue to support the project teams in proposal development until the proposal is deemed ready for submission or the end of the Period of Performance is reached.

Deliverables:

- Deliverable 1: Abstract submitted by EPHI-led and NAHDIC-led teams, appropriate to Thrust Area 6 of the DTRA FRCWMD-BAA.
- Deliverable 2: White paper (including any requested clarifications and/or revisions) submitted by EPHI-led and NAHDIC-led teams appropriate for submission to grants.gov and Thrust Area 6 of the DTRA FRCWMD-BAA if requested following successful review of the submitted abstract.
- Deliverable 3: Two full proposals (total) developed by EPHI-led and NAHDIC-led teams, respectively, appropriate for submission to Thrust Area 6 of the DTRA BAA.

Phase 4 – Project Closeout and White Paper Response Assistance (October 17- November 15, 2016)

Subphase 4.1 White Paper Response Assistance (October 17- November 15, 2016)
Following submission of respective white papers, provide final review and post-workshop support to participants as needed. the EPHI-led and NAHDIC-led teams may receive comments or requests for clarification from DTRA. If the teams receive this feedback within the project PoP, they will submit requests for assistance to the SMEs. After reviewing the feedback, the SMEs will provide the POCs with specific recommendations for addressing the comments. The POCs will coordinate the revisions to the white papers to address the comments and requests for clarification and submit a new draft to the SMEs. Following review, the SMEs will provide final comments or direction as necessary to the POCs.

Subphase 4.2 Final Report Submission (October 17- November 15, 2016)
Concurrently, and as part of closeout procedures, the Metabiota project team will write a final report detailing all actions taken throughout project implementation, lessons learned, and recommended next steps for submission to DTRA CBEP.

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix:

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
				Cost		
Subject Matter Expert Subcontracting	Due to limited insight into participant profiles and research activities, additional costs and time-delays may occur to identify and coordinate the most appropriate SME coordination, which may impact the ability to conduct this activity in full	3	3	Medium	Metabiota has preselected SMEs for this effort, and contingent understanding of the participants' work. Metabiota will evaluate the selected SMEs for inclusion. As needed, Metabiota will attempt to reach a basic agreement with SMEs as soon as possible and issue authorization to proceed while subcontracts are being put into place.	(b)(4); (b)(6)
Participant Identification and Coordination	Due to Metabiota's limited insight regarding the participants of the Writing and Grantsmanship Workshop, and their respective academic and logistical capacities (i.e. possession of laptops, research tools, previously cited materials, quality of data sources, etc.), it is possible that the quality of improvement for their manuscripts may be hindered.	4	3	Medium-High	Metabiota will ensure that effective coordination and communication with Ethiopian Stakeholders is employed to ensure that a maximal amount of information about the participants, their research, and their respective capacities' is garnered before the workshop. This will allow for the controlling of mentioned confounders, and a managed increase in efficiency with regard to review and operation.	
Programmatic labor hours	Following guidance from CBEP POC's, the current budget for Metabiota Program Management and Project Coordination hours are extremely low. As a result, and based on previous experience implementing overseas activities, there is significant risk for budget overrun.	5	5	(b)(4); (b)(6)	Metabiota recommends an increase in overall labor hours based on the described tasks and previous performance on similar AEP programmatic work	Low
Technical labor hours	Technical labor hours may be insufficient for the continued mentorship of Ethiopian stakeholders and for the development of workshop materials if they do not exist.	4	5	Medium-High	Metabiota recommends an increase in overall labor hours based on the described tasks and previous performance on similar AEP programmatic work	Low
				Schedule		
Project Coordination	Technical Writing and Grantsmanship Workshop, Ethiopia involves a significant number of stakeholders and participants representing various organizations, putting implementation activities at risk of delay or cancellation.	5	2	Medium	Establish and hold regular calls with all stakeholders and identify multiple possible implementation dates. Identify critical components as early as possible and redirect efforts when it becomes clear that targeted implementation dates will not be achievable.	(b)(4); (b)(6)

						(b)(4); (b)(6)
Project Timeline	The current project timeline suggests workshop implementation between the dates of July 25-29. Implementation on this date will require near immediate concensus among project stakeholders to support the submission of a training event plan 60 days prior to implementation.	3	4	Medium-High	Metabiota will seek out and establish communciaiton with Ethiopian stakeholders immediately upon approval of the technical direction, and ensure that consensus on workshop implementation dates are established as expediently as possible.	
			Performance/Quality			
Political Instability	Sporadic violence near borders and occasionally in the capital may lead to risks of being unable to safely complete in-country work.	2	5	Medium	Coordinate closely with DTRA and AFRICOM to be aware of any potential risks to performers, and target a location for the workshop well away from risky areas	
Proposal Development	Direction has been given to facilitate the submission of two full proposals developed by EPHI-led and NAHDIC-led teams appropriate for submission to Thrust Area 6 of the DTRA BAA; however, a lack of clarity exists regarding proposed concepts and contributors they may pose a risk to overall submission quality	3	4	Medium-High	Metabiota will request for all relevant documentation and information from DTRA CBEP immediately upon approval of this technical direction and will work to ensure that concepts and all proposal components are developed to the highest quality possible prior to submission so far as it can.	

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$71,497.00
1003	MATERIALS	$1,350.00
1004	ODCS	$2,610.00
1005	TRAVEL	$11,300.00
TOTAL		$86,957.81

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES).

Period of Performance

The period of performance for this effort is May 2, 2016 – May 15, 2016.

Labor

Costs for direct labor to support this activity is required for the following personnel

All phases

Metabiota Program Manager (b)(6) will provide oversight of the planning and execution of all program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As some of our Subject Matter Experts will be independent consultants, the Metabiota PM will additionally oversee and ensure that all project personnel adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PM will provide management oversight of the project team, including independent consultants throughout the span of the project.

The Metabiota PM will oversee the coordination between the Ethiopian stakeholders and the workshop planning team and will ensure the project team captures and keeps in account stakeholder input regarding key information relevant to the planning of the workshop. The PM will manage any logistic concerns that may arise during the course of the workshop, allowing the SMEs to maintain focus the workshop without interruption. The PM will restrict his time expenditure in country to an operational minimum while ensuring congruency in programmatic support.

Metabiota has budgeted a total 98 hours to the Metabiota PM For the activities described above. General programmatic oversight will require at minimum a 5% level of effort over the course of the 11 weeks to support phase 1 activities. During this time, the PM will be required to lead all weekly communications. The PM will also provide oversight to the PC and project SMEs, in an effort that is estimated to require at least 2 hours per week for a total of 22 during the phase 1. Phase 2 will include workshop implementation activities and will require the PM to commit at least a 50% level of effort during a 1 week period to ensure successful workshop implementation and for the provision of programmatic and logistical support to Project SMEs tasked with leading the workshop for a total of 20 hours . Phase 3 will task the PM to continue leading all stakeholder communications and to provide high level support and oversight to the PC and SMEs throughout post workshop activities. The PM will need to commit to a ~ 7.5% level of effort over 13 weeks for a total of 36 hours. Phase 4 will task the PM to continue leading all stakeholder communications and to provide support and oversight to the PC and SMEs throughout submission of response activities and final report development. The PM will lead the development of the final report with support from the PC and SMEs and will need to commit to at least a 10% level of effort over 4 weeks for a total of 12 hours.

Metabiota Project Coordinator (b)(6) ct as Project Coordinator (billed as Research and Data Analyst) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will provide coordination support towards the planning and execution of DTRA CBEP objectives towards the completion of all project goals. The PC will do so by participating in proposal development coordination and by leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The Metabiota PC will be responsible for setting meetings w th team members, periodic reporting outreach to all Ethiopian stakeholders, and for recording meeting minutes during all communications. The PC will be responsible for developing all project CDRLs and for working with the PM to ensure their timely submission within the proposed project timeline. The PC will also be responsible for developing and maintaining all living contract documents including schedules, charters, work plans following stakeholder and client meetings.

Metabiota has budgeted a total 116 hours to the Metabiota PC For the activities described above. General programmatic coordination will require at minimum a 10% level of effort over the course of the 11 weeks to support phase 1 activities. During this time, the PC will be required to participate in and record all weekly communications and provide general support to the PM and project SMEs, an effort that is estimated to require at least 4 hours per week for a total of 44 during phase 1. Phase 2 will include workshop implementation activities and will require the PC to remotely support workshop implementation at a 10% level of effort during a 1-week period to ensure successful workshop implementation and transparent reporting to DTRA CBEP representation. Phase 3 will task the PC to continue participating in and recording all stakeholder communications and to provide support PM and SMEs throughout post workshop activities. The PC will need to commit to a ~10% level of effort over 13 weeks for a total of 48 hours. Phase 4 will task the PC to continue participating in and recording all stakeholder communications and to provide support to the PM and SMEs throughout submission response activities and final report development. The PC will need to commit to at least a 10% level of effort over 4 weeks for a total of 12 hours.

Subject Matter Expert I (2 total): The SME Is will be tasked with providing workshop materials, workshop participation, and mentoring of workshop participants following

workshop conclusion. During phase 1 the SMEs will review the workshop materials to make any necessary updates and ensure the materials' relevance to the Ethiopian scientists. It is estimated that the SMEs will need to develop up to 25% original workshop material to supplement existing workshop materials. The hours necessary for this development were estimated using a ratio of 4 hours of development for each hour of contact time

During phase 2 the SMEs will deliver lectures on topics relevant to grant writing and submission, and facilitate small group work based on this content. Phase 3 will commence following workshop completion. During this phase, the SMEs will provide remote support to the POCs for the EPHI and NAHDIC teams in their development of an abstract and white paper suitable for submission to DTRA BAA Thrust Area 6. Upon receipt from the POCs, the SMEs will review the drafts of these documents and provide feedback via telephone, email or skype. During phase 4, following submission of white papers by the EPHI-led and NAHDIC-led teams, the SMEs will provide further assistance to the POCs in responding to any comments or revisions requested by DTRA CBEP.

Metabiota has budgeted a total of 384 hours to the Metabiota SMEs for the activities described above. Project coordination and materials development activities during this phase are estimated to require 46 hours per SME over the course of 15 weeks for a total of 92 hours. The SMEs will be required to participate in regular communication with and provide general support to the PM during phase 1 activities. Phase 2 will include workshop implementation activities and will require the SMEs to be available in country at a 100% level of effort during a 1-week period to ensure successful workshop implementation and transparent reporting to the PM. The SMEs will be required to travel to Ethiopia from the United States for this phase and will spend a 7 full days at a 100% level of effort each. Thus a total of 56 hours per SME will be required for Phase 2. Phase 3 will task the SMEs to continue participating in relevant stakeholder communications and to provide SME support throughout post workshop activities. The SMEs will need to commit no less than 70 hours total over 10 weeks each for a total of 140 hours. Phase 4 will task the SMEs to continue participating in relevant stakeholder communications and to provide support throughout submission response activities. The SMEs will need to commit to at least 5 hours per week over 4 weeks for a total of 20 hours each

Materials
We have budgeted for an effort based international communications capacity for our project team while they are in country implementing the workshop. The costs budgeted here reflect activating a moderate calling plan to support the efforts of the program manager and subject matter experts

Other Direct Costs
Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Independent Consulting Agreements
Consulting agreements will be issued to SMEs and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Support is requested for two SMEs to travel to Addis Ababa to implement the writing workshop. The travel budget represents the estimated amount required; travel on the AEP contract is cost reimbursable. Metabiota expects to leverage other requirements for travel in order to have the PM in-country for the grantsmanship workshop at no additional cost.

Our travel budget assumes the workshop will be held on 5 consecutive days. If, through discussion with the Ethiopian stakeholders, and alternative schedule is created or an alternative location is desired, travel costs may be impacted accordingly.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $0

12a. CURRENT PERIOD OF PERFORMANCE

2- May-2016- 15-May-2016

12b. TD REV PERIOD OF PERFORMANCE

2-May-2016 – 15-May-2016

13. CONT (b)(6) TE

Signatur

Date: 10 May 2016

14. REGION

AFRICOM/ Ethiopia

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	025	A

4. TD TITLE	5. TOTAL TD ESTIMATE:
Technical Writing and Grantsmanship Workshop, Ethiopia	HOURS. _____ DOLLARS: $ **$86,957.81**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME (b)(6)
PHONE (b)(6) MAIL: (b)(6)	PHON EMAIL. (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-025 from 15 May 2016 to 15 November 2016 at no additional cost. This PoP extension is to provide enough time to continue developing a writing workshop for Ethiopian collaborators from the Ethiopian Public Health Institute (EPHI) and National Animal Health Diagnostic and Investigation Center (NAHDIC). Metabota should coordinate directly with the Technical POCs identified below. No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ **$0**	**2-MAY-2016 – 15 MAY 2016**	Signature:
11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV. $ **$86,957.81**	12b. TD REV PERIOD OF PERFORMANCE **15-MAY-2016 – 15-NOV-2016**	Date: **13 May 2016**

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
AFRICOM/ Ethiopia	(b)(6)	X (b)(6)
		(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	025	B

4. TD TITLE	5. TOTAL TD ESTIMATE
Technical Writing and Grantsmanship Workshop, Ethiopia	HOURS: _____ DOLLARS: $ **$0.21**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)	PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The purpose of this revision is to increase the TD ceiling by $0.21 and adjust funding on the CLINs detailed in Block 10 below.

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

No further changes to the previously approved proposal are required at this time

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 81,618.89		
1003	MATERIALS	$ -		
1004	ODCs	$ 52199		
1005	TRAVEL	$ 4,817.14		
	TOTAL	**$ 86,958.02**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ **$0.21**	**2-MAY-2016 – 15 MAY 2016**	Signatur (b)(6)
11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV: $ **$86,958.02**	12b. TD REV PERIOD OF PERFORMANCE **15-MAY-2016 – 15-NOV-2016**	Date: **15 November 2016**

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
AFRICOM/ Ethiopia	(b)(6)	X (b)(6)
		(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
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    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

June 22, 2015

Metabiota
(b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for continued implementation of Research Project Ukraine TADR Activity Project 4 (TAP-4).

Dear (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to continue implementation of UP TAP-4 to establish and standardize a regional alliance between CBEP partner countries with Eastern Europe to raise awareness to and provide education of African Swine Fever, in accordance with SOW section 4.3, Task 6. Contract modification P0010 included the exercise option of Task 6 for Research Activity Projects, granting direction to Metabiota to provide scientific and administrative management to UP TAP-4 research project during the Base Period. Metabiota was tasked to facilitate efforts in Ukraine to identify and educate those persons who work with swine to recognize clinical and epidemiological matters of ASF; and specifically, for those workers who understand common sources and routes of exposure, preventative measures, how to recognize symptoms, and how to respond to suspected ASF cases. A proposal and estimated budget for implementing this requirement is requested by 29 June 2015.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with the DTRA CBEP Points of Contact listed below.

CBEP POCs: (b)(6)
(b)(6)

Attachments List: None

Sincerely,

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

6/22/2015

(b)(6)

X

(b)(6)

(b)(6)

(b)(6)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

June 22, 2015

Metabiota
(b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for continued implementation of Research Activity Project UP-2 (Ukraine Project 2).

Dear (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to continue implementation of UP-2 to provide research collaborators across Ukraine partner institutes in accordance with SOW section 4.3, Task 6. Contract modification P0010 included the exercised option of Task 6 for Research Activity Projects, granting direction to Metabiota to provide scientific and administrative management to UP-2 research project during the Base Period. A proposal and estimated budget for implementing this requirement is requested by 29 June 2015.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with the DTRA CBEP Points of Contact listed below.

CBEP POCs (b)(6)
(b)(6)

Attachments List: None

Sincerely,

6/22/2015

X (b)(6)
(b)(6)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

(b)(6)

Cc:
(b)(6)

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	001	A

4. TD TITLE

PPE Donning and Doffing Biosafety Training and Viral Hemorrhagic Fever Clinical Recognition in Cameroon

5. TOTAL TD ESTIMATE:

HOURS. _____ DOLLARS: $ **$125,975**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHONE: (b)(6) MAIL: (b)(6)

7. CONTRACTOR POC

NAME (b)(6)

PHON EMAI (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE).

This revision extends to Period of Performance (PoP) end date for TD-00' from 30 November 2015 to 30 April 2016. This PoP extension is to provide enough time to accomplish required Leahy vetting of participants, and ensure that the training and any attendant administrative requirements are addressed. Metabiota should coordinate directly with the Technical POCs identified below to identify a new training date following completion of Leahy vetting. No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 110,048	5/16/2015	4/30/2016
1003	MATERIALS	$ -	5/16/2015	4/30/2016
1004	ODCs	$ 3,081	5/16/2015	4/30/2016
1005	TRAVEL	$ 12,846	5/16/2015	4/30/2016
	TOTAL	**$ 125,975**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV.

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$125,975**

12a. CURRENT PERIOD OF PERFORMANCE

16 MAY 2015 – 21 JAN 2016

12b. TD REV PERIOD OF PERFORMANCE

16 MAY 2015 30 APR 2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:

Date: 22 November 2015

14. REGION

AFRICOM

15. TECHNICAL POINTS OF CONTACT

(i.e., Country Manager/Regional Lead/Science Manager, A&AS)

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X (b)(6)

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12. 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact Details
8. Description of the Technical Directive Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	001	A

4. TD TITLE

PPE Donning and Doffing Biosafety Training and Viral Hemorrhagic Fever Clinical Recognition in Cameroon

5. TOTAL TD ESTIMATE:

HOURS: _____ DOLLARS: $ **$125,975**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHONE (b)(6) EMAIL (b)(6)

7. CONTRACTOR POC

NAME (b)(6)

PHON MAI (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends to Period of Performance (PoP) end date for TD-001 from 30 November 2015 to 30 April 2016. This PoP extension is to provide enough time to accomplish required Leahy vetting of participants, and ensure that the training and any attendant administrative requirements are addressed. Metabiota should coordinate directly with the Technical POCs identified below to identify a new training date following completion of Leahy vetting. No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES :

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 110,048	5/16/2015	4/30/2016
1003	MATERIALS	$ -	5/16/2015	4/30/2016
1004	ODCs	$ 3,081	5/16/2015	4/30/2016
1005	TRAVEL	$ 12,846	5/16/2015	4/30/2016
	TOTAL	**$ 125,975**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$125,975**

12a. CURRENT PERIOD OF PERFORMANCE

16 MAY 2015 – 21 JAN 2016

12b. TD REV PERIOD OF PERFORMANCE

16 MAY 2015 – 30 APR 2016

13. CONTRACTOR SIGNATURE AND DATE

Signature: _____

Date: _____

14. REGION

AFRICOM

15. TECHNICAL POINTS OF CONTACT

(i.e., Country Manager/Regional Lead/Science Manager, A&AS)

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

(b)(6)

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
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10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions. Cumulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	2	B

4. TD TITLE

Implementation of Sample Collection and Diagnostics Training on Middle East Respiratory Syndrome (MERS-CoV) in Camels and Bats in Kazakhstan

5. TOTAL TD ESTIMATE:

HOURS: _____ DOLLARS: $ **$391,055.71**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHONE: (b)(6) EMA (b)(6)

7. CONTRACTOR POC

NAME (b)(6)

PHON EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends to Period of Performance (PoP) end date for TD-002 from 30 September 2015 to 31 January 2016. This PoP extension is to accommodate revised dates for laboratory training, now scheduled for 7-11 December 2015.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES.:

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	193,010.11	5/16/2015	1/31/2016
1003	MATERIALS	$	69,578.14	5/16/2015	1/31/2016
1004	ODCs	$	3,062.10	5/16/2015	1/31/2016
1005	TRAVEL	$	125,405.36	5/16/2015	1/31/2016
	TOTAL	**$**	**391,055.71**	5/16/2015	1/31/2016

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$391,055.71**

12a. CURRENT PERIOD OF PERFORMANCE

16 MAY 2015 – 30 SEP 2015

12b. TD REV PERIOD OF PERFORMANCE

16 MAY 2015 – 31 JAN 2016

13. CONTRACTOR SIGNATURE AND DATE

Signature: _____

Date: _____

14. REGION

EUCOM

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

(b)(6)

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
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    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd, Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	007	A

4. TD TITLE

DTRA/CBEP Implementation of a Regional Landscape Analysis in the Southeast Asia Region

5. TOTAL TD ESTIMATE:

HOURS. _____ DOLLARS: $ **$850,489**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHON(b)(6) MAIL (b)(6)

7. CONTRACTOR POC

NAME: (b)(6)

ONE: EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends to Period of Performance (PoP) end date for TD-007 from 31 October 2015 to 31 December 2015. This PoP extension will provide additional time for completion and government acceptance of the PACOM Landscape Analysis. No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES)

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	802,669	5/15/2015	12/31/2015
1003	MATERIALS	$	27,711	5/15/2015	12/31/2015
1004	ODCs	$	8,452	5/15/2015	12/31/2015
1005	TRAVEL	$	11,657	5/15/2015	12/31/2015
	TOTAL	**$**	**850,489**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$850,489**

12a. CURRENT PERIOD OF PERFORMANCE

15 MAY 2015 – 31 OCT 2015

12b. TO REV PERIOD OF PERFORMANCE

15 MAY 2015 31 DEC 2015

13. CONTRACTOR SIGNATURE AND DATE

Signature:

Date 22 November 2015

14. REGION

15. TECHNICAL POINTS OF CONTACT

(i.e. Country Manager/Regional Lead/Science Manager A&AS)

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

(b)(6)

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cumulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	007	A

4. TD TITLE

DTRA/CBEP Implementation of a Regional Landscape Analysis in the Southeast Asia Region

5. TOTAL TD ESTIMATE:

HOURS: _____ DOLLARS: $ **$850,489**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHONE: (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC

NAME: (b)(6)

PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends to Period of Performance (PoP) end date for TD-007 from 31 October 2015 to 31 December 2015. This PoP extension will provide additional time for completion and government acceptance of the PACOM Landscape Analysis. No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	802,669	5/15/2015	12/31/2015
1003	MATERIALS	$	27,711	5/15/2015	12/31/2015
1004	ODCs	$	8,452	5/15/2015	12/31/2015
1005	TRAVEL	$	11,657	5/15/2015	12/31/2015
	TOTAL	**$**	**850,489**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$850,489**

12a. CURRENT PERIOD OF PERFORMANCE

15 MAY 2015 – 31 OCT 2015

12b. TD REV PERIOD OF PERFORMANCE

15 MAY 2015 – 31 DEC 2015

13. CONTRACTOR SIGNATURE AND DATE

Signature:

Date: _____

14. REGION

15. TECHNICAL POINTS OF CONTACT

(i.e., Country Manager/Regional Lead/Science Manager, A&AS)

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X (b)(6)

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
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Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
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Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-c-0104	METABIOTA	12	A

4. TD TITLE	5. TOTAL TD ESTIMATE:
Continued implementation of Research Activity Project UP-2 (Ukraine Project 2)	HOURS: _____ DOLLARS: $ **$225,000.00**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)	PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision changes the end date for the period of performance for this effort to 30 September 2015 and establishes a not to exceed value of $225.000.00 for implementation activities from 16 May 2015 through 30 September 2015.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Technical Approach

Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project phases and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. To achieve these purposes, Metabiota will support activities within three specific project goal categories to learn from the history of these zoonoses while also proactively managing any future threats. These goals and their corresponding tasks are organized to provide long-term, sustainable teams across UP institutes to maintain this and future efforts. Please note the Priority and Task numbers (below) track with the approved UP-2 proposal submitted 5 September 2014 (AEP base year).

Phase 1: Active surveillance for tick-borne diseases, specifically tularemia caused by *Francisella tularensis*
- Priority 1: Task 2.3: PCR and culture diagnostic efforts for *F. tularensis*

Phase 2: Surveillance and environmental sampling for *Bacillus anthracis*
- Priority 2: Task 3.1: Investigating recent and ongoing anthrax outbreaks
- Priority 2: Subtask 3.1.1: Sampling Blood from Animals without Clinical Symptoms (e.g., wild boar)
- Priority 4: Task 3.2: Laboratory analyses for *B. anthracis* for UP-2

Phase 3: GIS, remote sensing, and micro/molecular diagnostics
- Priority 1 (*F. tularensis)*: Task 4.3.1: Space-time Analyses for historical and field data
- Priority 1 (*F. tularensis)*: Task 4.3.2: Remote Sensing
- Priority 1 (*B. anthracis)*: Task 4.2: Ecological Niche Modeling experiments

Process: To achieve these goals, Metabiota provided various logistic, coordination, and performer support across all phases and all stakeholders. Specifically, Metabiota provided support for Subject Matter Expertise to conduct GIS mapping activities with the Institute of Veterinary Medicine (IVM) in July, 2015, materials and equipment support and biosafety cabinet recertification to the IVM, Volyn Oblast Laboratory Center of the State Sanitary and Epidemiological Services of Ukraine (VOLC), and the Ukrainian Center for Disease Control and monitoring of the Ministry of Health of Ukraine (UCDC), and process support and coordination for all stakeholders including identifying critical process requirements to conduct in-country travel and research activities, such as Animal Care and Use Review Office (ACURO).

Moreover, in support of achieving all objectives through Phases 1-3, Metabiota provided support for Ukrainian UP-2 collaborators to conduct research activities via a subcontract with CRDF Global.

Deliverables:
Metabiota:
- Supported the development and submission of animal care and use Review Office (ACURO) applications
- Issued sub-contractual agreements with Kansas State University in support of research activities
- Conducted procurement activities for laboratory equipment and supplies at VOLC, IVM, and UCDC
- Coordinated Biosafety Cabinet re-certification at VOLC, IVM, and UCDC
- Supported stakeholders from the University of Florida to conduct GIS mapping activities at IVM in late July 2015

Metabiota-supported Ukrainian Research Scientists:
UCDC
- Collected tick samples in Volyn oblast in May 2015, which were received and registered. In total, 1862 ticks were delivered and subsequently grouped into 140 pools
- Field material collected during previous iterations of UP-2 was tested for tularemia, including samples from 64 rodents (256 organs/tests) and 171 tick pools (171 tests). All results were negative
- Biological samples were tested using PCR (320 tests: 43 rodents (43 organs / 90 tests) and 115 tick pools (230 tests). Besides, 206 DNA samples (35 rodent spleens and 171 tick pools) were isolated. Studies will be finished in the 4th Quarter. 8 samples showed doubtful results and will be retested in the next quarter

VOLC
- Assessed supply needs for personal protective equipment, including gowns, respirators, gloves, etc., as well as laboratory materials, needed for research and needed for transportation of biological specimens
- Conducted field collection of ticks (1862), which were grouped according to their species into test tubes (25 ticks per tube), and then into

140 pools for delivery to the UCDC EDP laboratory.

IVM

- Developed ecological niche models of *B. anthracis* using GARP (Genetic algorithm for rule set production), in a resolution 16 and 8 km^2
- Developed count models of *B. anthracis* using Negative Binomial Regression in a resolution 16 km^2 and on rayon level
- Conducted soil sampling expedition preparation, including: choice of places selection, getting permissions and coordination with the local veterinary service of Ukraine
- Prepared and reviewed SOPs for soil sampling, materials decontamination and sera testing with ELISA test kit
- Designed and choose primers for PCR testing of soil samples for anthrax pathogen detection

Significant work remains to complete all UP-2 objectives, including sample collection and processing, assay validation, GIS-related analyses, and associated manuscript preparations. As of 1 October 2015, these activities will be implemented under the BTRIC TO-4 contract.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$127,154
1003	MATERIALS	$135,002
1004	ODCs	$2,632
1005	TRAVEL	$0
TOTAL		**$264,788**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Period of Performance

The Period of Performance for this effort is May 16, 2015 to September 30, 2015.

Direct Labor

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Experts were independent consultants, the Metabiota PM will additionally oversee and ensure that all project personnel adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PM will provide management oversight of the project team, including independent consultants throughout the span of the project.

Metabiota Trainer 1: The Metabiota Trainer 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

For the efficient and effective project implementation it is requested to engage the following experts.

Institutional Financial Support (IFS)

Importantly, the original CRDF subcontract was to be billed under ODCs under the FFP portion of the AEP contract. With the move to the T&M, incorporating these costs as labor even at the lowest labor category would cause the price to skyrocket, so we are only registering a fraction of the hours worked – enough to cover the costs of the Ukrainian labor and all management fees.

CRDF Global is an independent nonprofit organization that promotes international science collaborations and full-service grant administration. Metabiota will engage CRDF Global for disbursement of funds to Ukrainian project recipients as well as grant payments to institutions participating in the UP-2 project. CRDF will provide Metabiota with transparent monitoring and detailed reporting of the grant payments.

Via CRDF, Metabiota will provide grant payments to the below institutes to support salaries of participating scientists.

IFS of the Ukrainian Centers for Disease Control (UCDC) and IFS of Volyn Oblast Lab Center (VOLC) personnel – In order to achieve the project's goals and objectives related *F. tularensis* research, it is anticipated that 14 UCDC and eight VOLC personnel will require salary support.

The workload identified for the UCDC staff is based on their previous engagement in the UP-2 Project Development Grant (PDG) and nearly two years of work on the project under the BTRIC. The reimbursement rates are consistent with local norms, prevailing market rates paid under similar projects.

IFS of the Institute of Veterinary Medicine (IVM) personnel - For achieving project goals and corresponding objectives related to *B. anthracis*

research, it is anticipated that staffing of IVM will include up to 15 people.

The reimbursement rates are consistent with local norms, prevailing market rates paid under similar projects.

Materials & Supplies

The detailed list of materials and supplies that are needed to carry out proposed research, their quantity, unit cost and corresponding catalog number are indicated in the project budget. The unit cost is estimated on the basis of the price that the manufacture or vendor provided at their websites. If the specific item's price is unavailable in open sources, the cost is budgeted as an average quote from local vendors. All materials and supplies are defined by the following categories at the corresponding organization.

- ***Materials & Supplies for Laboratories at UCDC*** Within the framework of the project it is expected to obtain up to 3000 samples (both tick pools and rodent's organs) for testing by PCR and bacteriology. Provided costs are required to support research materials, supplies and consumables needed to carry out laboratory analysis at UCDC. Such supplies include, Personal Protection Equipment (PPE) needed to provide biosafety standards (relates to tasks 2.1, 2.2, and 2.3), reagents and supplies for DNA extraction and PCR (relates to task 2.3), reagents and supplies for bacteriological culture (task 2.3), general laboratory and office supplies (i.e., copier paper, writing tools, binding supplies, copier supplies, postage, toners cartridge, other miscellaneous supplies, etc.) that will be used by staff to carry out daily activities on the project and relates to all tasks.
- ***Materials & Supplies for Laboratory at VOLC.*** Provided costs are required for research materials, supplies and consumables needed to carry out sample processing at VOLC (Tasks 2.1, 2.2). Such supplies include items like PPE, dissection tools, disinfectants, vials and tubes, general laboratory supplies that are needed for sample processing, storage, and disposal of used materials.
- ***Materials & Supplies for Tularemia field efforts.*** Provided costs are required for research materials, supplies and consumables needed to carry out field collection efforts. Such supplies include items for setting up field activity, collecting samples clean up, and miscellaneous (drinking water, first aid kits, Insect repellent, etc.).
- ***Materials & Supplies for IVM Laboratories.*** 1000 boar serum and 300 field samples will be provided for testing. Provided costs are required for research materials, supplies and consumables needed to carry out anthrax efforts in the proposed research (tasks 3.1 and 3.2). These supplies will include PPE, needed to provide biosafety standards; sample handling, storage, and dispensing; reagents and supplies for PCR, ELISA, and bacteriology; and other laboratory supplies that that will be used by staff to carry out daily activities.
- ***Materials & Supplies for anthrax field efforts.*** Provided costs are required for research materials, supplies and consumables needed to carry out the proposed research and include item for safety sample collection, transportation, and storage, as well provide BS&S standards.
- ***Biosafety Cabinet (BSC) Re-certification.*** In order to safely manipulate samples collected in the field, all BSC's in all project laboratories required annual re-certification, which was supported via this project.

Other Direct Costs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Kansas State University Subcontract

Direct Labor

Labor rates have been designed to capture KSU overhead costs including indirects and fees.

KSU Subject Matter Expert 3 – Senior personnel salary is requested for the KSU project Principal Investigato (b)(6) contribution to the project will be; 1) supervision of the completion of the land cover mapping component of the project, 2) lead field excursion to Volyn Oblast, Ukraine to complete validation of land cover mapping component, 3) supervise and contribute to creation of biophysical data layers to support pathogen distribution mapping.

KSU Research and Data Analyst – Graduate student salary is requested to support one research assistant throughout the project. The research assistant will have a 9-month appointment. Duties of the research assistant will include: 1) assist with production of final product and archiving of land cover maps, 2) acquire remote sensing data and assist PI Goodin in creating biophysical layers, and 3) other tasks as directed by the project PI.

Materials

Supplies funds will be used to cover annual license costs for the ENVI and Arc-GIS software packages, both of which will be used extensively in this research. The license fee is determined based on estimates of computing needed using each of the two software packages, as a percentage of the total cost of departmental and university site\seat lice

10. FUNDING AUTHORIZED THIS TO REV.

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	127,154.00	5/16/2015	9/30/2015
1003	MATERIALS	$	135,002.00	5/16/2015	9/30/2015
1004	ODCs	$	2,632.00	5/16/2015	9/30/2015
1005	TRAVEL	$	-	5/16/2015	9/30/2015
	TOTAL	**$**	**264,788.00**	5/16/2015	9/30/2015

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ $264,788 11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV: $ $264,788	16 May 2015 –15 May 2016 12b. TD REV PERIOD OF PERFORMANCE 16 May 2015 – 30 Sep 2016	Signature:_____ Date: . . . . .

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM	(b)(6)	X (b)(6) (b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Fnnds Authorized
    a. Fnnds Authorized for this TD Revision Exclnsively
    b. Funds Authorized inclusive of all Revisions, Cumulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
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14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
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TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-c-0104	METABIOTA	12	A

4. TD TITLE	5. TOTAL TD ESTIMATE:
Continued implementation of Research Activity Project UP-2 (Ukraine Project 2)	HOURS _____ DOLLARS: $ ____**$225,000.00**_____

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

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9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES)

Technical Approach

Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project phases and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. To achieve these purposes, Metabiota will support activities within three specific project goal categories to learn from the history of these zoonoses while also proactively managing any future threats. These goals and their corresponding tasks are organized to provide long-term, sustainable teams across UP institutes to maintain this and future efforts. Please note the Priority and Task numbers (below) track with the approved UP-2 proposal submitted 5 September 2014 (AEP base year).

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- Priority 1: Task 2.3: PCR and culture diagnostic efforts for *F. tularensis*

Phase 2: Surveillance and environmental sampling for *Bacillus anthracis*
- Priority 2: Task 3.1: Investigating recent and ongoing anthrax outbreaks
- Priority 2: Subtask 3.1.1: Sampling Blood from Animals without Clinical Symptoms (e.g., wild boar)
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Phase 3: GIS, remote sensing, and micro/molecular diagnostics
- Priority 1 (*F. tularansis)*: Task 4.3.1: Space-time Analyses for historical and field data
- Priority 1 (*F. tularensis)*: Task 4.3.2: Remote Sensing
- Priority 1 (*B. anthracis)*: Task 4.2: Ecological Niche Modeling experiments

Process: To achieve these goals, Metabiota provided various logistic, coordination, and performer support across all phases and all stakeholders. Specifically, Metabiota provided support for Subject Matter Expertise to conduct GIS mapping activities with the Institute of Veterinary Medicine (IVM) in July, 2015, materials and equipment support and biosafety cabinet recertification to the IVM, Volyn Oblast Laboratory Center of the State Sanitary and Epidemiological Services of Ukraine (VOLC), and the Ukrainian Center for Disease Control and monitoring of the Ministry of Health of Ukraine (UCDC), and process support and coordination for all stakeholders including identifying critical process requirements to conduct in-country travel and research activities, such as Animal Care and Use Review Office (ACURO).

Moreover, in support of achieving all objectives through Phases 1-3, Metabiota provided support for Ukrainian UP-2 collaborators to conduct research activities via a subcontract with CRDF Global.

Deliverables:
Metabiota:
- Supported the development and submission of animal care and use Review Office (ACURO) applications
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- Conducted procurement activities for laboratory equipment and supplies at VOLC, IVM, and UCDC
- Coordinated Biosafety Cabinet re-certification at VOLC, IVM, and UCDC
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Metabiota-supported Ukrainian Research Scientists:
UCDC
- Collected tick samples in Volyn oblast in May 2015, which were received and registered. In total, 1862 ticks were delivered and subsequently grouped into 140 pools
- Field material collected during previous iterations of UP-2 was tested for tularemia, including samples from 64 rodents (256 organs/tests) and 171 tick pools (171 tests). All results were negative
- Biological samples were tested using PCR (320 tests: 43 rodents (43 organs / 90 tests) and 115 tick pools (230 tests). Besides, 206 DNA samples (35 rodent spleens and 171 tick pools) were isolated. Studies will be finished in the 4th Quarter. 8 samples showed doubtful results and will be retested in the next quarter

VOLC
- Assessed supply needs for personal protective equipment, including gowns, respirators, gloves, etc., as well as laboratory materials, needed for research and needed for transportation of biological specimens
- Conducted field collection of ticks (1862), which were grouped according to their species into test tubes (25 ticks per tube), and then into

140 pools for delivery to the UCDC EDP laboratory.

IVM

- Developed ecological niche models of *B. anthracis* using GARP (Genetic algorithm for rule set production), in a resolution 16 and 8 km^2
- Developed count models of *B. anthracis* using Negative Binomial Regression in a resolution 16 km^2 and on rayon level
- Conducted soil sampling expedition preparation, including: choice of places selection, getting permissions and coordination with the local veterinary service of Ukraine
- Prepared and reviewed SOPs for soil sampling, materials decontamination and sera testing with ELISA test kit
- Designed and choose primers for PCR testing of soil samples for anthrax pathogen detection

Significant work remains to complete all UP-2 objectives, including sample collection and processing, assay validation, GIS-related analyses, and associated manuscript preparations. As of 1 October 2015, these activities will be implemented under the BTRIC TO-4 contract.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$127,154
1003	MATERIALS	$135,002
1004	ODCs	$2,632
1005	TRAVEL	$0
TOTAL		**$264,788.18**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Period of Performance

The Period of Performance for this effort is May 16, 2015 to September 30, 2015.

Direct Labor

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Experts were independent consultants, the Metabiota PM will additionally oversee and ensure that all project personnel adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PM will provide management oversight of the project team, including independent consultants throughout the span of the project.

Metabiota Trainer 1: The Metabiota Trainer 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

For the efficient and effective project implementation it is requested to engage the following experts.

Institutional Financial Support (IFS)

Importantly, the original CRDF subcontract was to be billed under ODCs under the FFP portion of the AEP contract. With the move to the T&M, incorporating these costs as labor even at the lowest labor category would cause the price to skyrocket, so we are only registering a fraction of the hours worked – enough to cover the costs of the Ukrainian labor and all management fees.

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Via CRDF, Metabiota will provide grant payments to the below institutes to support salaries of participating scientists.

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The workload identified for the UCDC staff is based on their previous engagement in the UP-2 Project Development Grant (PDG) and nearly two years of work on the project under the BTRIC. The reimbursement rates are consistent with local norms, prevailing market rates paid under similar projects.

IFS of the Institute of Veterinary Medicine (IVM) personnel - For achieving project goals and corresponding objectives related to *B. anthracis*

research, it is anticipated that staffing of IVM will include up to 15 people.

The reimbursement rates are consistent with local norms, prevailing market rates paid under similar projects.

Materials & Supplies

The detailed list of materials and supplies that are needed to carry out proposed research, their quantity, unit cost and corresponding catalog number are indicated in the project budget. The unit cost is estimated on the basis of the price that the manufacture or vendor provided at their websites. If the specific item's price is unavailable in open sources, the cost is budgeted as an average quote from local vendors. All materials and supplies are defined by the following categories at the corresponding organization.

- ***Materials & Supplies for Laboratories at UCDC***. Within the framework of the project it is expected to obtain up to 3000 samples (both tick pools and rodent's organs) for testing by PCR and bacteriology. Provided costs are required to support research materials, supplies and consumables needed to carry out laboratory analysis at UCDC. Such supplies include, Personal Protection Equipment (PPE) needed to provide biosafety standards (relates to tasks 2.1, 2.2, and 2.3), reagents and supplies for DNA extraction and PCR (relates to task 2.3), reagents and supplies for bacteriological culture (task 2.3), general laboratory and office supplies ((i.e., copier paper, writing tools, binding supplies, copier supplies, postage, toners cartridge, other miscellaneous supplies, etc.) that will be used by staff to carry out daily activities on the project and relates to all tasks.
- ***Materials & Supplies for Laboratory at VOLC.*** Provided costs are required for research materials, supplies and consumables needed to carry out sample processing at VOLC (Tasks 2.1, 2.2). Such supplies include items like PPE, dissection tools, disinfectants, vials and tubes, general laboratory supplies that are needed for sample processing, storage, and disposal of used materials.
- ***Materials & Supplies for Tularemia field efforts***. Provided costs are required for research materials, supplies and consumables needed to carry out field collection efforts. Such supplies include items for setting up field activity, collecting samples, clean up, and miscellaneous (drinking water, first aid kits, Insect repellent, etc.).
- ***Materials & Supplies for IVM Laboratories.*** 1000 boar serum and 300 field samples will be provided for testing. Provided costs are required for research materials, supplies and consumables needed to carry out anthrax efforts in the proposed research (tasks 3.1 and 3.2). These supplies will include PPE, needed to provide biosafety standards: sample handling, storage, and dispensing; reagents and supplies for PCR, ELISA, and bacteriology; and other laboratory supplies that that will be used by staff to carry out daily activities.
- ***Materials & Supplies for anthrax field efforts.*** Provided costs are required for research materials, supplies and consumables needed to carry out the proposed research and include item for safety sample collection, transportation, and storage, as well provide BS&S standards.
- ***Biosafety Cabinet (BSC) Re-certification.*** In order to safely manipulate samples collected in the field, all BSC's in all project laboratories required annual re-certification, which was supported via this project.

Other Direct Costs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Kansas State University Subcontract

Direct Labor

Labor rates have been designed to capture KSU overhead costs including indirects and fees.

KSU Subject Matter Expert 3 – Senior personnel salary is requested for the KSU project Principal Investigat (b)(6) contribution to the project will be; 1) supervision of the completion of the land cover mapping component of the project, 2) lead field excursion to Volyn Oblast, Ukraine to complete validation of land cover mapping component, 3) supervise and contribute to creation of biophysical data layers to support pathogen distribution mapping.

KSU Research and Data Analyst – Graduate student salary is requested to support one research assistant throughout the project. The research assistant will have a 9-month appointment. Duties of the research assistant will include; 1) assist with production of final product and archiving of land cover maps, 2) acquire remote sensing data and assist PI Goodin in creating biophysical layers, and 3) other tasks as directed by the project PI.

Materials

Supplies funds will be used to cover annual license costs for the ENVI and Arc-GIS software packages, both of which will be used extensively in this research. The license fee is determined based on estimates of computing needed using each of the two software packages, as a percentage of the total cost of departmental and university site\seat lice

10. FUNDING AUTHORIZED THIS TO REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CO[redacted]
$ $0 11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV: $ $0	16 May 2015 15 May 2016 12b. TD REV PERIOD OF PERFORMANCE 16 May 2015 30 Sep 2016	(b)(6) Signat[redacted] Date: 17 September 2015

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM	(b)(6)	X (b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cumulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

29 June, 2015

Metabiota
(b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for continued implementation of One Health Epidemiology Training in Uganda

De (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to continue implementation of the One Health Epidemiology training program in Uganda in accordance with SOW section 4.3, Task 3. In support of ongoing efforts, Metabiota should implement all activities as scheduled:

- Cohort 9 Module 1- 13-17 July, Wakiso District, Uganda
- Cohort 9 Module 2- 7-11, September, Wakiso District, Uganda
- Cohort 10, Module 1- 14-18 September, Hoima District, Uganda
- Cohort 10, Module 2- 9-13 November, Hoima District, Uganda

The contractor shall be responsible for coordination of activities with CBEP and the Inter Agency Health Team at the U.S. Embassy, Kampala prior to implementation. A proposal, training schedule and detailed budget, not to exceed $750K, for implementing this requirement is requested by 6 July, 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with the DTRA CBEP Points of Contact listed below.

CBEP POCs:
- (b)(6)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

(b)(6)

(b)(6)

Attachments List: None

Sincerely,

6/29/2015

(b)(6)

X(

(b)(6)

(b)(6)

Cc:

(b)(6)

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-c-0104	METABIOTA	13	

4. TD TITLE	5. TOTAL TD ESTIMATE:
ONE HEALTH EPIDEMIOLOGY TRAINING IN UGANDA	HOURS. _ _____ DOLLARS: $ ____**$350,242.27**_____

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE (b)(6) MAIL: (b)(6)	PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision shall serve as an official request to update proposed labor costs, as appropriate, using the Foreign Local National rates established with P00020.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

Technical Approach: Metabiota will use the following technical approach to manage all tasks required for successful implementation of the project components and to provide overall feedback and reporting on the proceecings outlining the accomplishment of objectives. The following components will be executed concurrently and are required for this project:

Phase 1: Program Management and Coordination
Phase 2: Training Administration
Phase 3: Training Implementation

Objective: Coordinate with key in-country stakeholders to ensure trainers are properly oriented with the OHE training materials and training plan, participants meet criteria and have committed to fulfilling all requirements, and ensure responsible parities for contingent steps (logistics planning, participant coordination, trainer coordination, etc.) are identified and able to fulfill responsibilities within time, budget, and scope.

Process: Metabiota, in coordination with DTRA CBEP and key in-country stakeholders, will establish a communication plan and responsibility matrix for the conduction of the four OHE trainings, covering Module 1 and 2 for Cohorts 9 and 10. The project team will coordinate to finalize the trainer and participant lists for each cohort and training (4 trainings total, 4 Uganda based independent consultant trainers per training, 3 Metabiota personnel working in a management and oversight capacity per training, 25-30 participants per cohort) and ensure all parties involved are able to participate in full and fulfill all training requirements.

Metabiota will coordinate with local partners to disseminate timely and accurate correspondences and Letters of Invitation (LOIs) to all participants and trainers. Metabiota will coordinate with CLS for all participant and event logistics, as well as for the procurement of any necessary materials and training supplies.

Deliverables (Program Management) – All deliverables associated with Component 1 are associated with overall program management to ensure effective implementation of the all project objectives:
- Deliverable #1: Effective communications between all stakeholcers to ensure all project activities are efficiently executed in accordance with Client and Host Country expectations and guidelines; including delivery of meeting minutes during stakeholder calls.
- Deliverable #2: Maintain project schedules to ensure implementation of high-quality trainings within proposed project budget and in accordance with the technical approach (above);
- Deliverable #3: Maintain client, stakeholder, and contractor relationships;

Training Administration (July 1, 2015 – February 29, 2016) Objective: Develop quantitative and qualitative evaluations of all training Module 1 and Module 2 events. Provide lessons learned and recommendations in After Action Reports (AARs).

Process: Metabiota, in coordination with in-country stakeholders and Ugandan OHE trainers, will conduct both daily evaluations and pre- and post-training testing in order to develop a comprehensive evaluation of the training implementation. After the completion of all four trainings and data analysis, Metabiota will develop a comprehensive qualitative and quantitative evaluation of the training implementation.

Deliverables:
- Deliverable #1: Develop all pre training related documentation and CDRLs - Responsibility Matrix, Training Event Plans (TEPs), CLS forms, and Finalized Trainer and Participant Lists;
- Deliverable #2 Development of After Action Report;

-After Action Reports will contain in-depth recommendations, detailed lessons –learned, and further insight for the DTRA COR.

Training Implementation (July 1, 2015 - February 29, 2016) Objective: Facilitate the conduction of Module 1 and 2 OHE trainings (5 days each) for Cohorts 9 and 10 in the Jinja and Hoima Districts, respectively, and provice technical and programmatic support for the trainers and participants to complete of interim training requirements between Modules 1 and 2. Additionally, Metabiota will support and encourage collaboration and communication establishment amongst participants, with a focus on neighboring Districts, throughout the training sessions and the interim activities.

Process: Metabiota, in coordination with DTRA CBEP and key in-country stakeholders, will facilitate the four OHE trainings. In order to provide the Ugandan stakeholders with both technical and programmatic support and ensure project goals and objectives are being met, Metabiota trainers and, potentially, a scientific mentor will travel to each of the four trainings. Metabiota will conduct pre- and post- training testing as well as hold daily feedback sessions with the Ugandan trainers to identify gaps, reorient (if necessary) training approaches, and discuss lessons learned.

Deliverables:

- Deliverable #1: Submission of daily training evaluations and participant feedback;
- Deliverable #2: Submission of four Training Trip Reports (TTR)

-providing high level overview of the trainings and highlighting next step recommendations and cohort and module-specific lessons learned.
-Contractually required through CDRL 15

The following table (Timeline) describes the anticipated timeline of each phase.

Training	May 2015	Jun 2015	Jul 2015	Aug 2015	Sep 2015	Oct 2015	Nov 2015	Dec 2015	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016
Mod 1						Cohort 9		Cohort 10					
Mod 2								Cohort 9		Cohort 10			

Risk Management:
In order to maintain our course of action and guarantee trainings that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation Plan	Residual Risk
		Cost				
Communication and cultural boundaries disrupting training preparation and execution	Participants, and presenters do not have a clear understanding of logistical support	4	5	(b)(4); (b)(6)	Before the training Metabiota will support CDC-Uganda and MoH to ensure communication is provided to participants and presenters clearly outlines support for the training	Med
		Schedule				
Submission of CCRs and TEPs	CCRs must be submitted at least 45 days prior to each event, and TEPs 65 days prior, and are dependent upon receipt of Letters of Technical Direction	5	5		Upon receipt of the Letter of Technical Direction, Metabiota shall immediately submit all DTRA required travel documents	Med-High
		Performance				
Ability to collaborate with MoH Uganda	Trainers from MoH Uganda are required for effective implementation	3	3	Med	Metabiota will directly engage MoH trainers to ensure buy-in and support	(b)(4); (b)(6)
Logistics coordination	Russian based logistics company that is locally staffed, which can lead to misinterpretation of vital information	3	3	Med	Metabiota will directly engage both Russian and local based offices of TTI/CLS	

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$279,635
1003	MATERIALS	$12,632
1004	ODCs	$12,147
1005	TRAVEL	$45,828
TOTAL		**$350,242.27**

9c. TO SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES.)

Period of Performance:
The Period of Performance for this effort is May 16, 2015 to February 29, 2015.
One Health Epidemiology Uganda is a legacy project that allows Metabiota to incur costs immediately as the proposed period of performance begins, and regardless of a DTRA CBEP decision to move forward. In kind, our team accrued a total of 215 hours during this period to design and develop the proposal. This effort involved a total of 93 program management hours, 84 research and data analyst hours, 16 SME III hours, 16 SME I hours, and 6 Trainer I hours.

The original period of performance was altered from May 16, 2015 through December 31, 2015 to May 15, 2015 through February 2016 to allow for the planned execution of both module 1 and module 2 of cohort 10. The postponement of Cohort 9 from its original schedule dictated a need to shift the trainings accordingly.

Labor:
Costs for direct labor to support this activity is required for the following personnel:

- Metabiota Program Manager (b)(6) will oversee the execution of program objectives towards the completion of DTRA CBEP goals at the regional level, and will lead communication with DTRA CBEP for this activity. (b)(6) will do so by maintaining oversight of stakeholder

coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. (b)(6) ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables erstwhile ensuring the program remains within scope, budget, and timeline. Additionally, prior to (b)(6) val and as part of his onboarding process, program management responsibilities were shared by Metabiota Program Manage (b)(6) s of July 7th 2015 and throughout the remaining period of performance (b)(6) l be the sole Program Manager for this effort. The previous period of performance was extended through February 29, 2016. To this end, additional LOE for (b)(6) required to ensure successful execution and closeout of this training program effectively enabling him to maintain management of communication between key stakeholders. This time will also be used to support in country activities directly related to the execution of training modules. The additional LOE was determined using project actuals to date.

- Metabiota Project Coordinator (Research and Data Analyst; RDA (b)(6) will ensure the execution of project objectives towards the completion of DTRA CBEP goals at the project level (b)(6) ill do so by supporting stakeholder coordination and project execution, with a focus on project milestone achievement and stakeholder buy-in development and maintenance (b)(6) ill regularly communicate project status with (b)(6) and will assist (b)(6) nticipating, managing, and communicating project risks and recommended mitigation strategies to the funder (b)(6) will also assist (b)(6) suring all project requirements and deliverables are fulfilled while concurrently ensuring the project remains within scope, budget, and timeline. With an extended period of performance, through February 29, 2016, an additional two months of LOE is required for (b)(6) to provide logistics and planning suppo (b)(6) will continue in her current capacity throughout this effort, and may be required to support in country trainings. The additional LOE was determined using project actuals to date.
- Metabiota Technical Manager (Trainer III)- Dr. Robyn Woodbury will oversee all aspects of the execution of the training events (b)(6) (b)(6) submit and track all Training Event Plans (TEPs), Training Trip Reports (TTRs), and After Action Reports (AARs). (b)(6) will also direct and manage the local trainers, ensuring optimal execution of al training objectives (b)(6) manage in-country stakeholders and project execution, with a focus on buy-in maintenance (b)(6) will direct feedback sessions with the local trainers daily, along with the Scientific Mentor, to discuss training material, lessons-learned, and review survey results from the participants. In additio (b)(6) will suppo (b)(6) in ensuring the program remains within scope, budget and timeline. (b)(6) ontribution to this effort will have discontinued from 08/01/2015.
- Metabiota Training Administrator (Trainer I (b)(6) MPH will play a vital role in implementation, coordination, and reporting. He will travel to the field for trainings and lead reporting efforts. He will additionally suppo (b)(6) by attending meetings and communicating with relevant stakeholders. From a technical perspective he will use his expertise to support the administrative efforts o (b)(6) d (b)(6) during field trainings and in the development of After Action Reports (AARs) and Training Trip Reports (TTRs).
- Metabiota Subject Matter Expert (SME III) (b)(6) an internationally known expert in epidemiology, virus ecology, viral hemorrhagic fevers, fundamentals and domains of disease emergence. Since the 1970s, he has been leading international teams with partner institutions of developing countries (Dakar, Senegal, Bangui, Central African Republic). He largely contributed to developing tools and implementing strategies for the control and prevention of transmitted disease, and has been published in more than two hundred scientific papers in peer-reviewed journals (b)(6) will support the OHE training programs by mentoring the local trainers and District participants in outbreak investigation and response best practices. In addition (b)(6) ill facilitate the scientific collaborations and support daily training implementation discussions.
- Metabiota Project Support Staff (SME I) (b)(6) was involved in supporting the development of the Technical proposal and budget for OHE Uganda. Her involvement in this project will be discontinued from 08/01/2015.
- Metabiota Regional Trainer and Mentor (Trainer (b)(6) based in Sierra Leone, is a recognized epidemiologist focusing in VHF contact tracing and rapid response systems. (b)(6) has lead on-the-ground teams of health workers investigating VHF outbreaks and clusters (b)(6) ill serve as a regional scientific mentor to both the participants and the local trainers. In additio (b)(6) ill facilitate and support scientific collaborations and provide lessons-learned from his field experience while operating in the recent/ongoing Ebola outbreak in West Africa.
- Metabiota Local Trainers (Research and Data Analyst Lead trainers (TBD) to support OHE Cohort 10 Module 2) will execute the pre- and post-tests, as well as the daily surveys from the participants. The Trainers will lead small group sessions in a 1:6 ratio, and support and guide the participants' working projects that occur between modules. Working closely wit (b)(6) he Trainers will implement all OHE training materials including lectures, computer enrichment sessions, and exercises.

(b)(6) s an independent contractor currently working to support the Ugandan Ministry of Health as an infectious disease epidemiologist. He has been brought onto this training as part of the Metabiota tean (b)(6) ime was supported by research and data analyst (RDA) hours for Cohort 9 Module 1 training. However, upon the approval of the AFRICOM Foreign Local National (FLN) rates, he will henceforth be supported by this labor category.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials:

Minor materials and supplies are required to support project activities including stakeholder outreach and coordination, training material production, and host country approval facilitation. Materials will include:

International Communication-Semi-monthly stakeholder meetings will occur to coordinate all upcoming trainings in-county. Internet systems and international calls will be utilized for this effort. Routine updates will take p ace via e-mail

Printing Services- One set of OHE Modules 1 and 2 books, for 25 participants, and one set of Instructor Manuals, for 2 trainers, will be required. It is assumed that CLS will manage printing of all necessary materials. Metabiota will prepare the necessary documentation (e.g., CLS request forms) when seeking support for this activity.

Other Direct Costs:

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all project participants in accordance with DBA guidelines.

Subcontracts:

Local trainers may be utilized for execution of the training and will be subject to an Independent Consultant agreement.

Travel:

Funds are requested for three Metabiota personnel (two CONUS, one OCONUS) to travel to Uganda to facilitate each training event, four in total. Specifically, funding has been budgeted to support travel for two Metabiota personnel from CONUS for training implementation and oversight purposes. Additionally, in an effort to promote regional networking and capacity development, Metabiota has also budgeted travel funds for a Sierra Leonean field epidemiologist (e.g. (b)(6)) to air in training implementation. Metabiota staff will support project implementation, coordinate stakeholders, and provide technical support for Ugandan OHE trainers. Metabiota staff will hold daily feedback sessions with the trainers prior to beginning coursework for the day, and support computer enrichment activ ties that follow each evening. Prior to execution of travel, a cost estimate will

be provided to the AEP COR for review and approval. Metabiota will submit CLS forms requesting travel logistics support for participants (e.g., Trainees).

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 279,635.76	5/16/15	2/29/16
1003	MATERIALS	$ 12,632.00	5/16/15	2/29/16
1004	ODCs	$ 12,146.51	5/16/15	2/29/16
1005	TRAVEL	$ 45,828.00	5/16/15	2/29/16
	TOTAL	**$ 350,242.27**	5/16/15	2/29/16

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ _____**$350,242.27**_____

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ _____**$350,242.27**_____

12a. CURRENT PERIOD OF PERFORMANCE

_16 May 2015 – 29 Feb 2-16___

12b. TO REV PERIOD OF PERFORMANCE

___16 May 2015 – 29 Feb 2-16_____

13. CONTRACTOR SIGNATURE AND DATE

(b)(6)

Signatu_____

Date 8 December 2015

14. REGION

AFRICOM

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONT

(b)(6)

ignature:

Date:_____

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
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    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	013	A

4. TD TITLE

One Health Epidemiology Training in Uganda

5. TOTAL TD ESTIMATE:

HOURS: _____ DOLLARS: $ **$381,705.27**

6. CONTRACING OFFICER REPRESENTATIVE

NAME (b)(6)

PHONE (b)(6) EMAIL (b)(6)

7. CONTRACTOR POC

NAME (b)(6)

PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision shall serve as an official request to update proposed labor costs, as appropriate, using the Foreign Local National rates established with P00020.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES.:

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	302,676.76	5/16/2015	2/29/2016
1003	MATERIALS	$	21,054.00	5/16/2015	2/29/2016
1004	ODCs	$	12,146.51	5/16/2015	2/29/2016
1005	TRAVEL	$	45,828.00	5/16/2015	2/29/2016
	TOTAL	**$**	**381,705.27**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$381,705.27**

12a. CURRENT PERIOD OF PERFORMANCE

16 MAY 2015 – 29 FEB 2016

12b. TD REV PERIOD OF PERFORMANCE

16 MAY 2015 – 29 FEB 2016

13. CONTRACTOR SIGNATURE AND DATE

Signature: _____

Date: _____

14. REGION

AFRICOM

15. TECHNICAL POINTS OF CONTACT

(i.e., Country Manager/Regional Lead/Science Manager, A&AS)

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X (b)(6)

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
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12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-c-0104	METABIOTA	13	

4. TD TITLE	5. TOTAL TD ESTIMATE
ONE HEALTH EPIDEMIOLOGY TRAINING IN UGANDA	HOURS: DOLLARS: $ **$381,705.27**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE: (b)(6) MAIL: (b)(6)	PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to continue implementation of the One Health Epidemiology training program in Uganda in accordance with SOW section 4.3, Task 3. In support of ongoing efforts, Metabiota should implement all activities as scheduled:

- Cohort 9 Module 1- 19-23, October, Jinja District, Uganda
- Cohort 9 Module 2- 7-11, December, Jinja District, Uganda
- Cohort 10, Module 1- 14-18 December, Hoima District, Uganda
- Cohort 10, Module 2- 1-5, February, Hoima District, Uganda

The contractor shall be responsible for coordination of activities with CBEP and the Inter Agency Health Team at the U.S. Embassy, Kampala prior to implementation. A proposal, training schedule and detailed budget, not to exceed $750K, for implementing this requirement is requested by 6 July, 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs in Block 15 below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Technical Approach: Metabiota will use the following technical approach to manage all tasks required for successful implementation of the project components and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. The following components will be executed concurrently and are required for this project:

Phase 1: Program Management and Coordination
Phase 2: Training Administration
Phase 3: Training Implementation

Objective: Coordinate with key in-country stakeholders to ensure trainers are properly oriented with the OHE training materials and training plan, participants meet criteria and have committed to fulfilling all requirements, and ensure responsible parities for contingent steps (logistics planning, participant coordination, trainer coordination, etc.) are identified and able to fulfill responsibilities within time, budget, and scope.

Process: Metabiota, in coordination with DTRA CBEP and key in-country stakeholders, will establish a communication plan and responsibility matrix for the conduction of the four OHE trainings, covering Module 1 and 2 for Cohorts 9 and 10. The project team will coordinate to finalize the trainer and participant lists for each cohort and training (4 trainings total, 4 Uganda based independent consultant trainers per training, 3 Metabiota personnel working in a management and oversight capacity per training, 25-30 participants per cohort) and ensure all parties involved are able to participate in full and fulfill all training requirements.

Metabiota will coordinate with local partners to disseminate timely and accurate correspondences and Letters of Invitation (LOIs) to all participants and trainers. Metabiota will coordinate with CLS for all participant and event logistics, as well as for the procurement of any necessary materials and training supplies.

Deliverables (Program Management) – All deliverables associated with Component 1 are associated with overall program management to ensure effective implementation of the all project objectives:

- Deliverable #1: Effective communications between all stakeholders to ensure all project activities are efficiently executed in accordance with Client and Host Country expectations and guidelines; including delivery of meeting minutes during stakeholder calls
- Deliverable #2: Maintain project schedules to ensure implementation of high-quality trainings within proposed project budget and in accordance with the technical approach (above).
- Deliverable #3: Maintain client, stakeholder, and contractor relationships;

Training Administration (July 1, 2015 – February 29, 2016) Objective: Develop quantitative and qualitative evaluations of all training Module 1 and Module 2 events. Provide lessons learned and recommendations in After Action Reports (AARs).

Process: Metabiota, in coordination with in-country stakeholders and Ugandan OHE trainers, will conduct both daily evaluations and pre- and post-training testing in order to develop a comprehensive evaluation of the training implementation. After the completion of all four trainings and data analysis, Metabiota will develop a comprehensive qualitative and quantitative evaluation of the training implementation.

Deliverables:

- Deliverable #1: Develop all pre training related documentation and CDRLs - Responsibility Matrix, Training Event Plans (TEPs), CLS forms, and Finalized Trainer and Participant Lists;
- Deliverable #2: Development of After Action Report;

-After Action Reports will contain in-depth recommendations, detailed lessons –learned, and further insight for the DTRA COR.

Training Implementation (July 1, 2015 - February 29, 2016) Objective: Facilitate the conduction of Module 1 and 2 OHE trainings (5 days each) for Cohorts 9 and 10 in the Jinja and Hoima Districts, respectively, and provice technical and programmatic support for the trainers and participants to complete of interim training requirements between Modules 1 and 2. Additionally, Metabiota will support and encourage collaboration and communication establishment amongst participants, with a focus on neighboring Districts, throughout the training sessions and the interim activities.

Process: Metabiota, in coordination with DTRA CBEP and key in-country stakeholders, will facilitate the four OHE trainings. In order to provide the Ugandan stakeholders with both technical and programmatic support and ensure project goals and objectives are being met, Metabiota trainers and, potentially, a scientific mentor will travel to each of the four trainings. Metabiota will conduct pre- and post- training testing as well as hold daily feedback sessions with the Ugandan trainers to identify gaps, reorient (if necessary) training approaches, and discuss lessons learned.

Deliverables:
- Deliverable #1: Submission of daily training evaluations and participant feedback;
- Deliverable #2: Submission of four Training Trip Reports (TTR)

-providing high level overview of the trainings and highlighting next step recommendations and cohort and module-specific lessons learned.
-Contractually required through CDRL 15

The following table (Timeline) describes the anticipated timeline of each phase.

Training	May 2015	Jun 2015	Jul 2015	Aug 2015	Sep 2015	Oct 2015	Nov 2015	Dec 2015	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016
Mod 1						Cohort 9		Cohort 10					
Mod 2								Cohort 9		Cohort 10			

Risk Management:
In order to maintain our course of action and guarantee trainings that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation Plan	Residual Risk
Cost				(b)(4); (b)(6)		
Communication and cultural boundaries disrupting training preparation and execution	Participants, and presenters do not have a clear understanding of logistical support	4	5		Before the training Metabiota will support CDC-Uganda and MoH to ensure communication is provided to participants and presenters clearly outlines support for the training	Med
Schedule						
Submission of CCRs and TEPs	CCRs must be submitted at least 45 days prior to each event, and TEPs 65 days prior, and are dependent upon receipt of Letters of Technical Direction	5	5		Upon receipt of the Letter of Technical Direction, Metabiota shall immediately submit all DTRA required travel documents	Med-High
Performance						(b)(4); (b)(6)
Ability to collaborate with MoH Uganda	Trainers from MoH Uganda are required for effective implementation	3	3	Med	Metabiota will directly engage MoH trainers to ensure buy-in and support	
Logistics coordination	Russian based logistics company that is locally staffed, which can lead to misinterpretation of vital information	3	3	Med	Metabiota will directly engage both Russian and local based offices of TTI/CLS	

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$279.635
1003	MATERIALS	$12.632
1004	ODCs	$12.147
1005	TRAVEL	$45.828
TOTAL		**$350,242.27**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES).

Period of Performance:
The Period of Performance for this effort is May 16, 2015 to February 29, 2015.
One Health Epidemiology Uganda is a legacy project that allows Metabiota to incur costs immediately as the proposed period of performance begins, and regardless of a DTRA CBEP decision to move forward. In kind, our team accrued a total of 215 hours during this period to design and develop the proposal. This effort involved a total of 93 program management hours, 84 research and data analyst hours, 16 SME III hours, 16 SME I hours, and 6 Trainer I hours.

The original period of performance was altered from May 16, 2015 through December 31, 2015 to May 15, 2015 through February 2016 to allow for the planned execution of both module 1 and module 2 of cohort 10. The postponement of Cohort 9 from its original schedule dictated a need to shift the trainings accordingly.

Labor:
Costs for direct labor to support this activity is required for the following personnel:

- Metabiota Program Manager (b)(6) will oversee the execution of program objectives towards the completion of DTRA CBEP goals at the regional level, and will lead communication with DTRA CBEP for this activity. (b)(6) will do so by maintaining oversight of stakeholder coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. (b)(6) will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables erstwhile ensuring the program remains within scope, budget, and timeline. Additionally, prior to (b)(6) arrival and as part of his onboarding process, program management responsibilities were shared by Metabiota Program Manager (b)(6) and (b)(6) July 7th 2015 and throughout the remaining period of performance (b)(6) will be the sole Program Manager for this effort. The previous period of performance was extended through February 29, 2016. To this end, additional LOE for (b)(6) required to ensure successful execution and closeout of this training program effectively enabling him to maintain management of communication between key stakeholders. This time will also be used to support in country activities directly related to the execution of training modules. The additional LOE was determined using project actuals to date.
- Metabiota Project Coordinator (Research and Data Analyst: RDA) (b)(6) will ensure the execution of project objectives towards the completion of DTRA CBEP goals at the project level. (b)(6) will do so by supporting stakeholder coordination and project execution, with a focus on project milestone achievement and stakeholder buy-in development and maintenance. (b)(6) will regularly communicate project status with (b)(6) and will assist (b)(6) anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. (b)(6) will also assist (b)(6) in ensuring all project requirements and deliverables are fulfilled while concurrently ensuring the project remains within scope, budget, and timeline. With an extended period of performance, through February 29, 2016, an additional two months of LOE is required for M (b)(6) provide logistics and planning support. (b)(6) will continue in her current capacity throughout this effort, and may be required to support in country trainings. The additional LOE was determined using project actuals to date.
- Metabiota Technical Manager (Trainer III) (b)(6) will oversee all aspects of the execution of the training events. (b)(6) will submit and track all Training Event Plans (TEPs), Training Trip Reports (TTRs), and After Action Reports (AARs). (b)(6) will also direct and manage the local trainers, ensuring optimal execution of all training objectives. (b)(6) will manage in-country trainers and project execution, with a focus on buy-in maintenance. (b)(6) will direct feedback sessions with the local trainers daily, along with the Scientific Mentor, to discuss training material, lessons-learned, and review survey results from the participants. In addition, (b)(6) will support (b)(6) in ensuring the program remains within scope, budget and timeline. (b)(6) contribution to this effort will have discontinued from 08/01/2015.
- Metabiota Training Administrator (Trainer I) (b)(6) MPH will play a vital role in implementation, coordination, and reporting. He will travel to the field for trainings and lead reporting efforts. He will additionally support (b)(6) by attending meetings and communicating with relevant stakeholders. From a technical perspective he will use his expertise to support the administrative efforts of (b)(6) and (b)(6) during field trainings and in the development of After Action Reports (AARs) and Training Trip Reports (TTRs).
- Metabiota Subject Matter Expert (SME III) (b)(6) is an internationally known expert in epidemiology, virus ecology, viral hemorrhagic fevers, fundamentals and domains of disease emergence. Since the 1970s, he has been leading international teams with partner institutions of developing countries (Dakar, Senegal; Bangui, Central African Republic). He largely contributed to developing tools and implementing strategies for the control and prevention of transmitted disease, and has been published in more than two hundred scientific papers in peer-reviewed journal (b)(6) will support the OHE training programs by mentoring the local trainers and District participants in outbreak investigation and response best practices. In addition (b)(6) will facilitate the scientific collaborations and support daily training implementation discussions.
- Metabiota Project Support Staff (SME I)- (b)(6) was involved in supporting the development of the Technical proposal and budget for OHE Uganda. Her involvement in this project will have discontinued from 08/01/2015.
- Metabiota Regional Trainer and Mentor (Trainer II) (b)(6) based in Sierra Leone, is a recognized epidemiologist focusing in VHF contact tracing and rapid response systems. (b)(6) will lead on-the-ground teams of health workers investigating VHF outbreaks and clusters. (b)(6) will serve as a regional scientific mentor to both the participants and the local trainers. In addition (b)(6) will facilitate and support scientific collaborations and provide lessons-learned from his field experience while operating in the recent/ongoing Ebola outbreak in West Africa.
- Metabiota Local Trainers (Research and Data Analyst Lead trainers (TBD) to support OHE Cohort 10 Module 2) will execute the pre- and post-tests, as well as the daily surveys from the participants. The Trainers will lead small group sessions in a 1:6 ratio, and support and guide the participants' working projects that occur between modules. Working closely with (b)(6) the Trainers will implement all OHE training materials including lectures, computer enrichment sessions, and exercises.

(b)(6) is an independent contractor currently working to support the Ugandan Ministry of Health as an infectious disease epidemiologist. He has been brought onto this training as part of the Metabiota team. (b)(6) time was supported by research and data analyst (RDA) hours for Cohort 9 Module 1 training. However, upon the approval of the AFRICOM Foreign Local National (FLN) rates, he will henceforth be supported by this labor category.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials:
Minor materials and supplies are required to support project activities including stakeholder outreach and coordination, training material production, and host country approval facilitation. Materials will include:
International Communication-Semi-monthly stakeholder meetings will occur to coordinate all upcoming trainings in-county. Internet systems and international calls will be utilized for this effort. Routine updates will take place via e-mail.
Printing Services- One set of OHE Modules 1 and 2 books, for 25 participants, and one set of Instructor Manuals, for 2 trainers, will be required. It is assumed that CLS will manage printing of all necessary materials. Metabiota will prepare the necessary documentation (e.g., CLS request forms) when seeking support for this activity.

Other Direct Costs:
Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all project participants in accordance with DBA guidelines.

Subcontracts:

Local trainers may be utilized for execution of the training and will be subject to an Independent Consultant agreement.

Travel:

Funds are requested for three Metabiota personnel (two CONUS, one OCONUS) to travel to Uganda to facilitate each training event, four in total. Specifically, funding has been budgeted to support travel for two Metabiota personnel from CONUS for training implementation and oversight purposes. Additionally, in an effort to promote regional networking and capacity development, Metabiota has also budgeted travel funds for a Sierra Leonean field epidemiologist (e(b)(6) o air in training implementation. Metabiota staff will support project implementation, coordinate stakeholders, and provide tech dan OHE trainers. Metabiota staff will hold daily feedback sessions with the trainers prior to beginning coursework for the day, and support computer enrichment activities that follow each evening. Prior to execution of travel, a cost estimate will be provided to the AEP COR for review and approval. Metabiota will submit CLS forms requesting travel logistics support for participants (e.g., Trainees).

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	302,676.76	5/16/15	2/29/16
1003	MATERIALS	$	21,054.00	5/16/15	2/29/16
1004	ODCs	$	12,146.51	5/16/15	2/29/16
1005	TRAVEL	$	45,828.00	5/16/15	2/29/16
	TOTAL	**$**	**381,705.27**	5/16/15	2/29/16

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ _____$381,705.27_____

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ _____$381,705.27_____

12a. CURRENT PERIOD OF PERFORMANCE

_16 May 2015 – 29 Feb 2-16___

12b. TD REV PERIOD OF PERFORMANCE

___16 May 2015 – 29 Feb 2-16_____

13. CONTRACTOR SIGNATURE AND DATE

(b)(6)

Signa_____

Date: 23 November 2015

14. REGION

AFRICOM

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

Signature:_____

Date:_____

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cumulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-c-0104	METABIOTA	14	A

4. TD TITLE	5. TOTAL TD ESTIMATE
Development of a writing workshop to mentor selected participants of the One Health Zoonotic Diseases Workshop held in Kenya on March 2015.	HOURS: 394 DOLLARS: $ **$100,000.00**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE: (b)(6) MA (b)(6)	PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision to TD-14 provides additional guidance & clarification of the requirement to assist Metabiota in establishing a proposed implementation approach and budget for the period of performance. During the PoP, Metabiota is expected to:

a. Identify organizers of the Regional Conference on Zoonotic Diseases in Eastern Africa and collaborate with them to hold a 6-day writing workshop (not including venue, food, and travel logistics as this will be coordinated via CLS) for 20 participants. Metabiota should provide a PM and a SME1 for Project Coordination and Landscape Analysis. The hours required for this phase should not exceed 6 hours/week for two weeks each for the PM and SME1. Metabiota should reach out directly to (b)(6) the main POC of the One Health Workshop, to discuss [illegible] ed. Communication with (b)(6) hould also include the discussion of the participants list, as the conference organizers have already identified them and will provide the names and draft manuscripts to Metabiota.

b. Coordinate with Kenyan collaborators to jointly identify no more than 2 Kenyan SMEs to participate in the writing workshop as well as pre- and post-workshop activities. For the first phase of Project Coordination and Landscape Analysis, the two Kenyan SMEs should also each not exceed 6 hours/week for two weeks. The writing coaches will provide mentorship to the participants and will help them convert their scientific data into a complete draft manuscript for a research paper to be submitted to a peer-review science journal. One manuscript will be developed per workshop participant. Metabiota will assist in the development of up to 20 papers/manuscripts. Additional communications regarding the SME assignments should occur during the activities described in a. and should be part of the not to exceed 6 hours/week.

c. Hypothesis Development and Article Framing- CBEP's expectation is that this workshop will provide the participants with the right skills and guidance to take their manuscripts to the next level, with the goal that that next level will be good enough for acceptance to a peer-reviewed journal. The SMEs will not need to contact the participants before the workshop due to the coordination through the Kenyan POCs and SMEs. Metabiota's SMEs (one from Metabiota and two Kenyans to be identified) will review the participants' manuscripts prior to the workshop. Each SME should not spend more than 20 hours total to complete the review and assessment of the manuscripts prior to the workshop as well as conduct any additional coordination among the SMEs. The SMEs will work together to determine if/how the manuscripts will be divided up as each SME may not need to conduct a detailed review of each manuscript. There may be additional SMEs identified for participation in all workshop activities (including pre- and post- workshop activities) by the Kenyan stakeholders but their time will not be funded by Metabiota. This should be discussed with the Kenyan POC noted above. PM oversight of the SME's review and coordination activities should not exceed 5 hours total.

d. Writing Workshop Implementation- The workshop outline should be as follows: 1) the main workshop will consist of 5 days (Monday-Friday) where the SME's will work together with the participants, 2) 1 day after the workshop for the SME's to finalize the review of the manuscripts, and 3) the travel days needed to travel between the U.S. and Kenya. PM participation during the workshop is acceptable. However, oversight should not necessitate as many hours as the SMEs efforts during the workshop, therefore Metabiota should propose PM hours planned to be spent only on this project, or provide sufficient clarification regarding PM tasks during the 6 working days to justify a full-time workload. The labor hours for each SME should not exceed 72 hours. PM hours are estimated at no more than 4 hours per day.

e. Paper Finalization and Publication Submission- CBEP and Metabiota will not be supporting or overseeing the submission of these manuscripts; for that reason, activities related to this should not be included in the proposed approach.

f. Post-workshop efforts- Post-workshop efforts will include the three SMEs (2 Kenyans and 1 Metabiota SME that participated in the workshop) spending no more than 20 hours each over 2-4 weeks to continue coordination with each other and potentially other SMEs (not funded via Metabiota) as well as finalize any needed review or revision of the manuscripts with the workshop participants. This may need to be divided between SMEs to stay within the 20 hour maximum. PM oversight of the SME's final review and coordination activities should not exceed 5 hours total.

g. For Materials and Supplies: CBEP expects participants to have relevant papers they have used in the past (to develop draft manuscripts papers and the presentations given at the One Health Conference). However, limited access to journals should be provided by Metabiota. The access per participant should be no more than 10 articles per person. This is an average and downloads should be managed by the PM and/or SMEs. A total number of 200 papers is authorized however this is the maximum, which does not need to be met, and should be used as needed per participant, not necessarily divided evenly if some participants do not require additional resources.

The period of performance for this effort will be from 18 September 2015 to 15 February 2016; however, CBEP anticipates the total time required to implement the requirement to be 20 weeks, including 2 weeks for Phase 1 (planning and SME identification), 3 weeks for Phase 2 (manuscript review and SME coordination), 1 week for Phase 3 (executing the workshop), and 4 weeks for Phase 4 (post-workshop coordination and manuscript review). Your technical approach, proposed budget, and basis of estimate for implementing this requirement is requested by 16 Sep 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES::

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $0

12a. CURRENT PERIOD OF PERFORMANCE

18 September 2015 – 15 February 2016

12b. TD REV PERIOD OF PERFORMANCE

18 September 2015 15 February 2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:_____

Date:_____

14. REGION

AFRICOM

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed qnantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-c-0104	METABIOTA	14	A

4. TD TITLE

Development of a writing workshop to mentor selected participants of the One Health Zoonotic Diseases Workshop held in Kenya on March 2015.

5. TOTAL TD ESTIMATE:

HOURS. ____394_____ DOLLARS: $ ____**$100,000.00**_____

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)
PHONE (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC

NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision to TD-14 provides additional guidance & clarification of the requirement to assist Metabiota in establishing a proposed implementation approach and budget for the period of performance. During the PoP, Metabiota is expected to:

a. Identify organizers of the Regional Conference on Zoonotic Diseases in Eastern Africa and collaborate with them to hold a 6-day writing workshop (not including venue, food, and travel logistics as this will be coordinated via CLS) for 20 participants. Metabiota should provide a PM and a SME1 for Project Coordination and Landscape Analysis. The hours required for this phase should not exceed 6 hours/week for two weeks each for the PM and SME1. Metabiota should reach out directly to (b)(6) (b)(6) e main POC of the One Health Workshop, to discuss what the vision for the implementation of the workshop is and to discuss SME support needed. Communication with (b)(6) should also include the discussion of the participants list, as the conference organizers have already identified them and will provide the names and draft manuscripts to Metabiota.

b. Coordinate with Kenyan collaborators to jointly identify no more than 2 Kenyan SMEs to participate in the writing workshop as well as pre- and post-workshop activities. For the first phase of Project Coordination and Landscape Analysis, the two Kenyan SMEs should also each not exceed 6 hours/week for two weeks. The writing coaches will provide mentorship to the participants and will help them convert their scientific data into a complete draft manuscript for a research paper to be submitted to a peer-review science journal. One manuscript will be developed per workshop participant. Metabiota will assist in the development of up to 20 papers/manuscripts. Additional communications regarding the SME assignments should occur during the activities described in a. and should be part of the not to exceed 6 hours/week.

c. Hypothesis Development and Article Framing- CBEP's expectation is that this workshop will provide the participants with the right skills and guidance to take their manuscripts to the next level, with the goal that that next level will be good enough for acceptance to a peer-reviewed journal. The SMEs will not need to contact the participants before the workshop due to the coordination through the Kenyan POCs and SMEs. Metabiota's SMEs (one from Metabiota and two Kenyans to be identified) will review the participants' manuscripts prior to the workshop. Each SME should not spend more than 20 hours total to complete the review and assessment of the manuscripts prior to the workshop as well as conduct any additional coordination among the SMEs. The SMEs will work together to determine if/how the manuscripts will be divided up as each SME may not need to conduct a detailed review of each manuscript. There may be additional SMEs identified for participation in all workshop activities (including pre- and post- workshop activities) by the Kenyan stakeholders but their time will not be funded by Metabiota. This should be discussed with the Kenyan POC noted above. PM oversight of the SME's review and coordination activities should not exceed 5 hours total.

d. Writing Workshop Implementation- The workshop outline should be as follows: 1) the main workshop will consist of 5 days (Monday-Friday) where the SME's will work together with the participants, 2) 1 day after the workshop for the SME's to finalize the review of the manuscripts, and 3) the travel days needed to travel between the U.S. and Kenya. PM participation during the workshop is acceptable. However, oversight should not necessitate as many hours as the SMEs efforts during the workshop, therefore Metabiota should propose PM hours planned to be spent only on this project, or provide sufficient clarification regarding PM tasks during the 6 working days to justify a full-time workload. The labor hours for each SME should not exceed 72 hours. PM hours are estimated at no more than 4 hours per day

e. Paper Finalization and Publication Submission- CBEP and Metabiota will not be supporting or overseeing the submission of these manuscripts; for that reason, activities related to this should not be included in the proposed approach.

f. Post-workshop efforts- Post-workshop efforts will include the three SMEs (2 Kenyans and 1 Metabiota SME that participated in the workshop) spending no more than 20 hours each over 2-4 weeks to continue coordination with each other and potentially other SMEs (not funded via Metabiota) as well as finalize any needed review or revision of the manuscripts with the workshop participants. This may need to be divided between SMEs to stay within the 20 hour maximum. PM oversight of the SME's final review and coordination activities should not exceed 5 hours total.

g. For Materials and Supplies: CBEP expects participants to have relevant papers they have used in the past (to develop draft manuscripts papers and the presentations given at the One Health Conference). However, limited access to journals should be provided by Metabiota. The access per participant should be no more than 10 articles per person. This is an average and downloads should be managed by the PM and/or SMEs. A total number of 200 papers is authorized however this is the maximum, which does not need to be met, and should be used as needed per participant, not necessarily divided evenly if some participants do not require additional resources.

The period of performance for this effort will be from 18 September 2015 to 15 February 2016; however, CBEP anticipates the total time required to implement the requirement to be 20 weeks, including 2 weeks for Phase 1 (planning and SME identification), 3 weeks for Phase 2 (manuscript review and SME coordination), 1 week for Phase 3 (executing the workshop), and 4 weeks for Phase 4 (post-workshop coordination and manuscript review). Your technical approach, proposed budget, and basis of estimate for implementing this requirement is requested by 16 Sep 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Technical Approach
Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project phases and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. The following phases are required for this project:

Phase 1: Programmatic Coordination and Training Landscape Review
Phase 2: SME Review and Coordination
Phase 3: Writing Workshop Implementation
Phase 4: Post-workshop review and Summary Report Development

Phase 1 – Programmatic Coordination and Landscape Analysis (16 Sep - 24-Sep. 30, 2015)

Objective: Establish a communication and coordination plan with the Kenyan Zoonotic Disease Unit (ZDU), Global Implementation Solutions (GIS), and Conference to initiate collaboration and conduct a landscape review of technical writing capacities and needs in the One Health sector in Kenya.

Process: Metabiota, with direction from DTRA CBEP, will engag (b)(6) the main POC from the Regional Conference on Zoonotic Diseases in Eastern Africa, an event that took place in Naivasha, Kenya, March 2015. Through this collaboration, Metabiota will develop an understanding of Kenya's technical writing capacities and needs in the One Health sector. Metabiota will receive the list of selected writing workshop participants from (b)(6) etabiota will also receive recommendation from (b)(6) for two mutually agreed upon Kenya based SME 3 technical writing experts to be brought on as independent contractors for this effort.

Deliverables:

- Deliverable 1: Submission of contacts list to include Writing Workshop participants and Kenyan SME III technical writing experts

Phase 2 – Pre-Workshop Participant Manuscript Review (Nov. 2, 2015-Jan. 29, 2016)

Objective: Selected participants set to attend the Writing Workshop will provide draft manuscripts for review by subject matter experts prior to their attendance. Technical writing SMEs will be able to gain a specific and in-depth understanding of the content they can expect during the writing workshop before attending.

Process: Metabiota, in coordination with DTRA-CBEP ar (b)(6) will request that the selected participants produce draft manuscripts for review by the identified technical writing SMEs. Each SME will spend a defined number of hours reviewing the materials, and gaining a more defined understanding of the participants' approach. The SMEs will not be in contact with the participants during this phase, but will communicate among themselves with the assistance of the program manager to ensure that manuscripts to be reviewed are divided up appropriately among the team.

Deliverables:

- Deliverable 1: Submission of participants' draft manuscripts to include hypotheses, writing concepts and an approach plan, along with statements of accessible, supporting data.

Phase 3– Writing Workshop Implementation (Feb. 8-13, 2016)

Objective: Conduct a six-day workshop on various aspects of technical writing in order to train and mentor twenty participants representing the Kenyan One Health research sector.

Process: Metabiota will coordinate with the SME mentors and participants to conduct the six-day training in Kenya. This training will include a five days of lecture and working group sessions to cover topics including but not limited to scientific paper formatting, styling, and general requirements; the ethics of journal publication and authorship; the inclusion of background research and citing references, and understanding the impact factor and journal submission organizational techniques. Each participant will have access to the coaches, and be able to work directly with the SMEs on their material. The sixth and final day will allow for collaboration between the SMEs to finalize the review of manuscripts before departing.

Deliverables:

- Deliverable 1: Submission of the Training Trip Report and After-Action Report detailing the overall training processes and lessons learned and the results of knowledge gained assessments.

Phase 4 – Post-Workshop Review and Summary Report Development (Feb. 14-29, 2016)

Objective: Develop final report and provide final manuscript review and post-workshop support to participants as needed.

Process: Metabiota will work jointly with the SME mentors and participants to provide technical and programmatic support during the post-workshop phase. SMEs will coordinate with each other to ensure that no effort goes wasted and that manuscript reviews are comprehensive and supportive of the intended skill enhancement of the writers. SMEs will be able to communicate with participants during this period. Once complete, Metabiota will develop a final report detailing the overall processes and lessons learned.

Deliverables:

- Deliverable 1: Final report detailing overall processes and lessons learned

Risk Management:

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Cost						

Subject Matter Expert Subcontracting	Due to limited insight into participant profiles and research activities, additional costs and time-delays may occur to identify and coordinate the most appropriate SME coordination, which may impact the ability to conduct this activity in full.	3	3	Medium	As soon as Metabiota has a basic understanding of the participants' work, Metabiota will begin contacting necessary SMEs, refining the list as better understanding develops. Metabiota will attempt to reach basic agreement with SMEs as soon as possible and issue authorization to proceed while subcontracts are being put into place.
Programmatic labor hours	Following guidance from CBEP POC's, the current budget for Metabiota Program Management and Project Coordination hours are extremely low. As a result, and based on previous experience implementing overseas activities, there is significant risk for budget overrun.	5	5	(b)(4); (b)(6)	Maximize efficiency regarding approved labor hours through best practice, and notification to DTRA CBEP contracting officer of expectations to run over budget.
				Schedule	
Project Coordination	Kenya One Health Technical Writing Workshop involves a significant number of stakeholders and participants representing various organizations, putting implementation activities at risk of delay or cancellation	5	2	Medium	Establish and hold regular calls with al stakeholders and identify multiple possible implementation dates. Identify critical components as early as possible and redirect efforts when it becomes clear that targeted implementation dates will not be achievable.
				Performance	
Political Instability	Sporadic violence in northeastern Kenya may lead to risks of being unable to safely complete in-country work.	2	5	Medium	Coordinate closely with DTRA and AFRICOM to be aware of any potentia risks to performers, and target a location for the workshop well away from risky areas.

(b)(4); (b)(6)

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	OTAL
1002	LABOR	$85,141
1003	MATERIALS	$7,880
1004	ODCs	$3,542
1005	TRAVEL	$17,420
TOTAL		**$113,982.82**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Period of Performance

The Period of Performance for this effort is July 21, 2015 to February 29, 2016.

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensur ng the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As some of our Subject Matter Experts will be independent consultants the Metabiota PM will additionally oversee and ensure that all project personnel adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PM will provide management oversight of the project team, including independent consultants throughout the span of the project.

The Metabiota PM will oversee the coordination between the Kenyan stakeholders and the workshop planning team, and will ensure the project team captures and keeps in account stakeholder input regarding key information relevant to the planning of the workshop. The PM will travel to Kenya to

ensure the execution of the workshop proceeds smoothly and will provide oversight over all independent consultants. Lastly, the PM will provide oversight to ensure all required project closeout activities occur in a timely fashion.

Proposal Development - Phase 1:

Metabiota Subject Matter Expert I: The Metabiota SME I will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder.

Phase 2-4:

Subject Matter Expert III (2 total): We expect to identify two Kenya based SME III personnel with the support in large part from (b)(6) These SMEs will be fully qualified scientific experts with experience publishing in peer-reviewed journals. These SMEs will not require international travel, but will be compensated for domestic travel, and will be brought on as independent contractors to Metabiota.

The SMEs IIIs will each be assigned to work on reviewing manuscripts of the Writing workshop participants during phase 2. They will be tasked with workshop participation during phase 3, and final review during phase 4. These SMEs will be required to review relevant participant manuscripts closely during phase 2. This will require fully understanding the research that has been done, including a significant dive into the data collection and analysis that may have already been done to ensure that they utilize their time effectively during phase 3. During the workshop, SMEs will provide a mix of lectures discussing topics relevant to the authoring, editing, and publishing of scientific research, small group work reflecting those lectures, and one-on-one time with each of their assigned participants. Following the workshop, SMEs will provide follow-on mentoring to participants as they incorporate the lessons learned into the final drafts of their manuscript rev ews and relevant reports during phase 4.

Subject Matter Expert I (1 total): We expect to identify one US based Metabiota representative to serve as an SME I technical writer. This SME will be a fully qualified scientific expert with experience publishing in peer-reviewed journals.

The SME I will each be assigned to work on reviewing manuscripts of the Writing Workshop participants during phase 2 in concert with the SME 3s to avoid duplication of efforts. They will be tasked with workshop participation during phase 3, and final review during phase 4. This SME will be required to review relevant participant manuscripts closely during phase 2. This wil require fully understanding the research that has been done, including a significant dive into the data collection and analysis that may have already been done to ensure that they utilize their time effectively during phase 3. During the workshop, SMEs will provide a mix of lectures discussing topics relevant to the authoring, editing, and publishing of scientific research, small group work reflecting those lectures, and one-on-one time with each of their assigned participants. Following the workshop, This SME will provide follow-on mentoring to participants as they incorporate the lessons learned into the final drafts of their manuscript reviews and relevant reports during phase 4.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials
We have budgeted for the possibility that we may need to provide access to scientific journal articles to the workshop participants while they are working on their manuscripts. Our estimate provides an average of 10 articles per participant at an estimated access price of $35 per article. It may well be the case that some of the Writing Workshop participants do not require the use of this many articles on average; in which case costs will not be incurred. Participants must have expressed support from an involved SME to facilitate the purchase of any scientific article. The budget for journal access may only be partially utilized.

We have also budgeted for a small quantity of office supplies to accommodate the printing of agendas, training materials, or workshop materials needed to successfully execute and support in-country project activities.

Lastly, we have budgeted for international communications ability for our project team while they are in country implementing the workshop. The costs budgeted here reflect activating a moderate calling plan for each traveler's cell phones. These charges also reflect the provision of USB modems and associated moderate data plans to both the travelers and in country SME IIIs. These items will only be purchased if the situation dictates the need (i.e. inability to access online communications outright); otherwise, these modems will not be procured.

Other Direct Costs
Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts
Subcontracts will be issued to SMEs, RDAs, and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support the program manager 1 subject matter expert to Nairobi, Kenya to implement the writing workshop. The travel budget represents the estimated amount required; travel on the AEP contract is cost reimbursable.

Our travel budget assumes the workshop will be held on 6 consecutive days, with an additional day budgeted for set-up and coordination activities. If, through discussion with the Kenyan stakeholders, an alternative schedule is created or an alterative location is desired, travel costs may be impacted accordingly.

Kenyan SME III contractors will be provided with hotel, and per diem respective of their length of participation on this effort. Their cost for arriving to the venue will be covered independently; however, daily transport costs w ll be shared among the workshop team as a whole.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV.

$ $0

12a. CURRENT PERIOD OF PERFORMANCE

18 September 2015 – 15 February 2016

12b. TD REV PERIOD OF PERFORMANCE

18 September 2015 – 15 February 2016

13. CONTRACTOR SIGNATURE AND DATE

(b)(6)

Signature

Date: 16 September 2015

14. REGION

AFRICOM

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-c-0104	METABIOTA	14	A

4. TD TITLE	5. TOTAL TD ESTIMATE:
Development of a writing workshop to mentor selected participants of the One Health Zoonotic Diseases Workshop held in Kenya on March 2015.	HOURS ____394_____ DOLLARS: $ ____**$100,000.00**_____

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

This revision to TD-14 provides additional guidance & clarification of the requirement to assist Metabiota in establishing a proposed implementation approach and budget for the period of performance. During the PoP, Metabiota is expected to:

a. Identify organizers of the Regional Conference on Zoonotic Diseases in Eastern Africa and collaborate with them to hold a 6-day writing workshop (not including venue, food, and travel logistics as this will be coordinated via CLS) for 20 participants. Metabiota should provide a PM and a SME1 for Project Coordination and Landscape Analysis. The hours required for this phase should not exceed 6 hours/week for two weeks each for the PM and SME1. Metabiota should reach out directly to (b)(6) the main POC of the One Health Workshop, to discuss what the vision for the implementation of the workshop is and to discuss SME support needed. Communication with (b)(6) should also include the discussion of the participants list, as the conference organizers have already identified them and will provide the names and draft manuscripts to Metabiota.

b. Coordinate with Kenyan collaborators to jointly identify no more than 2 Kenyan SMEs to participate in the writing workshop as well as pre- and post-workshop activities. For the first phase of Project Coordination and Landscape Analysis, the two Kenyan SMEs should also each not exceed 6 hours/week for two weeks. The writing coaches will provide mentorship to the participants and will help them convert their scientific data into a complete draft manuscript for a research paper to be submitted to a peer-review science journal. One manuscript will be developed per workshop participant. Metabiota will assist in the development of up to 20 papers/manuscripts. Additional communications regarding the SME assignments should occur during the activities described in a. and should be part of the not to exceed 6 hours/week.

c. Hypothesis Development and Article Framing- CBEP's expectation is that this workshop will provide the participants with the right skills and guidance to take their manuscripts to the next level, with the goal that that next level will be good enough for acceptance to a peer-reviewed journal. The SMEs will not need to contact the participants before the workshop due to the coordination through the Kenyan POCs and SMEs. Metabiota's SMEs (one from Metabiota and two Kenyans to be identified) will review the participants' manuscripts prior to the workshop. Each SME should not spend more than 20 hours total to complete the review and assessment of the manuscripts prior to the workshop as well as conduct any additional coordination among the SMEs. The SMEs will work together to determine if/how the manuscripts will be divided up as each SME may not need to conduct a detailed review of each manuscript. There may be additional SMEs identified for participation in all workshop activities (including pre- and post- workshop activities) by the Kenyan stakeholders but their time will not be funded by Metabiota. This should be discussed with the Kenyan POC noted above. PM oversight of the SME's review and coordination activities should not exceed 5 hours total.

d. Writing Workshop Implementation- The workshop outline should be as follows: 1) the main workshop will consist of 5 days (Monday-Friday) where the SME's will work together with the participants. 2) 1 day after the workshop for the SME's to finalize the review of the manuscripts, and 3) the travel days needed to travel between the U.S. and Kenya. PM participation during the workshop is acceptable. However, oversight should not necessitate as many hours as the SMEs efforts during the workshop, therefore Metabiota should propose PM hours planned to be spent only on this project, or provide sufficient clarification regarding PM tasks during the 6 working days to justify a full-time workload. The labor hours for each SME should not exceed 72 hours. PM hours are estimated at no more than 4 hours per day.

e. Paper Finalization and Publication Submission- CBEP and Metabiota will not be supporting or overseeing the submission of these manuscripts; for that reason, activities related to this should not be included in the proposed approach.

f. Post-workshop efforts- Post-workshop efforts will include the three SMEs (2 Kenyans and 1 Metabiota SME that participated in the workshop) spending no more than 20 hours each over 2-4 weeks to continue coordination with each other and potentially other SMEs (not funded via Metabiota) as well as finalize any needed review or revision of the manuscripts with the workshop participants. This may need to be divided between SMEs to stay within the 20 hour maximum. PM oversight of the SME's final review and coordination activities should not exceed 5 hours total.

g. For Materials and Supplies: CBEP expects participants to have relevant papers they have used in the past (to develop draft manuscripts papers and the presentations given at the One Health Conference). However, limited access to journals should be provided by Metabiota. The access per participant should be no more than 10 articles per person. This is an average and downloads should be managed by the PM and/or SMEs. A total number of 200 papers is authorized however this is the maximum, which does not need to be met, and should be used as needed per participant, not necessarily divided evenly if some participants do not require additional resources.

The period of performance for this effort will be from 18 September 2015 to 15 February 2016; however, CBEP anticipates the total time required to implement the requirement to be 20 weeks, including 2 weeks for Phase 1 (planning and SME identification), 3 weeks for Phase 2 (manuscript review and SME coordination), 1 week for Phase 3 (executing the workshop), and 4 weeks for Phase 4 (post-workshop coordination and manuscript review). Your technical approach, proposed budget, and basis of estimate for implementing this requirement is requested by 16 Sep 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Technical Approach
Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project phases and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. The following phases are required for this project:

Phase 1: Programmatic Coordination and Training Landscape Review
Phase 2: SME Review and Coordination
Phase 3: Writing Workshop Implementation
Phase 4: Post-workshop review and Summary Report Development

Phase 1 – Programmatic Coordination and Landscape Analysis (16 Sep - 24-Sep. 30, 2015)

Objective: Establish a communication and coordination plan with the Kenyan Zoonotic Disease Unit (ZDU), Global Implementation Solutions (GIS), and Conference to initiate collaboration and conduct a landscape review of technical writing capacities and needs in the One Health sector in Kenya.

Process: Metabiota, with direction from DTRA CBEP, will engage Dr. Njenga Kariuki, the main POC from the Regional Conference on Zoonotic Diseases in Eastern Africa, an event that took place in Naivasha, Kenya, March 2015. Through this collaboration, Metabiota will develop an understanding of Kenya's technical writing capacities and needs in the One Health sector. Metabiota will receive the list of selected writing workshop participants from Dr. Njenga Kariuki. Metabiota will also receive recommendation from Dr. Njenga Kariuki for two mutually agreed upon Kenya based SME 3 technical writing experts to be brought on as independent contractors for this effort.

Deliverables:
- Deliverable 1: Submission of contacts list to include Writing Workshop participants and Kenyan SME III technical writing experts

Phase 2 – Pre-Workshop Participant Manuscript Review (Nov. 2, 2015-Jan. 29, 2016)

Objective: Selected participants set to attend the Writing Workshop will provide draft manuscripts for review by subject matter experts prior to their attendance. Technical writing SMEs will be able to gain a specific and in-depth understanding of the content they can expect during the writing workshop before attending.

Process: Metabiota, in coordination with DTRA-CBEP and Dr. Njenga Kariuki, will request that the selected participants produce draft manuscripts for review by the identified technical writing SMEs. Each SME will spend a defined number of hours reviewing the materials, and gaining a more defined understanding of the participants' approach. The SMEs will not be in contact with the participants during this phase, but will communicate among themselves with the assistance of the program manager to ensure that manuscripts to be reviewed are divided up appropriately among the team.

Deliverables:
- Deliverable 1: Submission of participants' draft manuscripts to DTRA CBEP representation to serve as a baseline for comparison to improved writings. Draft manuscripts to include hypotheses, writing concepts and an approach plan, along with statements of accessible, supporting data.

Phase 3– Writing Workshop Implementation (Feb. 8-13, 2016)

Objective: Conduct a six-day workshop on various aspects of technical writing in order to train and mentor twenty participants representing the Kenyan One Health research sector.

Process: Metabiota will coordinate with the SME mentors and participants to conduct the six-day training in Kenya. This training will include a five days of lecture and working group sessions to cover topics including but not limited to scientific paper formatting, styling, and general requirements; the ethics of journal publication and authorship; the inclusion of background research and citing references, and understanding the impact factor and journal submission organizational techniques. Each participant will have access to the coaches, and be able to work directly with the SMEs on their material. The sixth and final day will allow for collaboration between the SMEs to finalize the review of manuscripts before departing.

Deliverables:
- Deliverable 1: Submission of the Training Trip Report and After-Action Report detailing the overall training processes and lessons learned and the results of knowledge gained assessments.

Phase 4 – Post-Workshop Review and Summary Report Development (Feb. 14-29, 2016)

Objective: Develop final report and provide final manuscript review and post-workshop support to participants as needed.

Process: Metabiota will work jointly with the SME mentors and participants to provide technical and programmatic support during the post-workshop phase. SMEs will coordinate with each other to ensure that no effort goes wasted and that manuscript reviews are comprehensive and supportive of the intended skill enhancement of the writers. SMEs will be able to communicate with participants during this period. Once complete, Metabiota will develop a final report detailing the overall processes and lessons learned.

Deliverables:
- Deliverable 1: Final report detailing overall processes and lessons learned
- Deliverable 2: Submission of updated, edited, and improved post-workshop participant draft manuscripts, developed in concert with identified subject matter experts, to DTRA CBEP representation to serve as comparison points to the baseline for improvement evaluation.

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix:

Risk Management:

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
				Cost		
Subject Matter Expert Independent Contracting	Stated limitations on Subject Matter Expert selection and labor hours allocated, coupled with limited operational contact with workshop participants and their materials, may affect the quality of final phase deliverables for this effort.	4	3	**Medium-High**	As soon as this effort begins, Metabiota will identify an ideal SME I, and coordinate with Kenyan stakeholders to select ideal local national SME 3s for this workshop. Metabiota will also carefully manage and coordinate communication between all SMEs to ensure efficiency and the prevention of effort duplication wherever possible.	Medium
Participant Identification and Coordination	Due to Metabiota's limited insight regarding the participants of the Writing Workshop, and their respective academic and logistical capacities (i.e. possession of laptops, research tools, previously cited materials, quality of data sources, etc.), it is possible that the quality of improvement for their manuscripts may be hindered.	4	3	**Medium-High**	Metabiota will ensure that effective coordination and communication with Kenyan Stakeholders is employed to ensure that a maximal amount of information about the participants, their research, and their respective capacities' is garnered before the workshop. This will allow for the controlling of mentioned confounders, and a managed increase in efficiency with regard to review and operation.	Medium
Programmatic labor hours	Following guidance from CBEP POC's, the current budget for Metabiota Program Management and Project Coordination hours are extremely low. As a result, and based on previous experience implementing overseas activities, there is significant risk for budget overrun.	5	5	(b)(4); (b)(6)	Maximize efficiency regarding approved labor hours through best practice, and notification to DTRA CBEP contracting officer of expectations to run over budget.	(b)(4); (b)(6)
				Schedule		
Project Coordination	Kenya One Health Technical Writing Workshop involves a significant number of stakeholders and participants representing various organizations, putting implementation activities at risk of delay or cancellation.	5	2	Medium	Establish and hold regular calls with all stakeholders and identify multiple possible implementation dates. Identify critical components as early as possible and redirect efforts when it becomes clear that targeted implementation dates will not be achievable.	
				Performance		
Political Instability	Sporadic violence in northeastern Kenya may lead to risks of being unable to safely complete in-country work.	2	5	Medium	Coordinate closely with DTRA and AFRICOM to be aware of any potential risks to performers, and target a location for the workshop well away from risky areas.	

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$85,141
1003	MATERIALS	$7,880
1004	ODCs	$3,542
1005	TRAVEL	$17,420
TOTAL		**$113,982.82**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES)

Period of Performance

The Period of Performance for this effort is July 21, 2015 to February 29, 2016.

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As some of our Subject Matter Experts will be independent consultants the Metabiota PM will additionally oversee and ensure that all project personnel adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PM will provide management oversight of the project team, including independent consultants throughout the span of the project.

The Metabiota PM will oversee the coordination between the Kenyan stakeholders and the workshop planning team, and will ensure the project team captures and keeps in account stakeholder input regarding key information relevant to the planning of the workshop. The PM will travel to Kenya to ensure the execution of the workshop proceeds smoothly and will provide oversight over all independent consultants. Lastly, the PM will provide oversight to ensure all required project closeout activities occur in a timely fashion.

Proposal Development - Phase 1:

Metabiota Subject Matter Expert I: The Metabiota SME I will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipat ng, managing, and communicating projects risks and recommended mitigation strategies to the funder.

Phase 2-4:

Subject Matter Expert III (2 total): We expect to identify two Kenya based SME III personnel with the support in large part from (b)(6) These SMEs will be fully qualified scientific experts with experience publishing in peer-reviewed journals. These SMEs will not require international travel, but will be compensated for domestic travel, and will be brought on as independent contractors to Metabiota.

The SMEs IIIs will each be assigned to work on reviewing manuscripts of the Writing workshop participants during phase 2. They will be tasked with workshop participation during phase 3, and final review during phase 4. These SMEs will be required to review relevant participant manuscripts closely during phase 2. This will require fully understanding the research that has been done, including a significant dive into the data collection and analysis that may have already been done to ensure that they utilize their time effectively during phase 3. During the workshop, SMEs will provide a mix of lectures discussing topics relevant to the authoring, editing, and publishing of scientific research, small group work reflecting those lectures, and one-on-one time with each of their assigned participants. Following the workshop, SMEs will provide follow-on mentoring to participants as they incorporate the lessons learned into the final drafts of their manuscript reviews and relevant reports during phase 4.

Subject Matter Expert I (1 total): We expect to identify one US based Metabiota representative to serve as an SME I technical writer. This SME will be a fully qualified scientific expert with experience publishing in peer-reviewed journals.

The SME I will each be assigned to work on reviewing manuscripts of the Writing Workshop participants during phase 2 in concert with the SME 3s to avoid duplication of efforts. They will be tasked with workshop participation during phase 3, and final review during phase 4. This SME will be required to review relevant participant manuscripts closely during phase 2. This will require fully understanding the research that has been done, including a significant dive into the data collection and analysis that may have already been done to ensure that they utilize their time effectively during phase 3. During the workshop, SMEs will provide a mix of lectures discussing topics relevant to the authoring, editing, and publishing of scientific research, small group work reflecting those lectures, and one-on-one time with each of their assigned participants. Following the workshop, This SME will provide follow-on mentoring to participants as they incorporate the lessons learned into the final drafts of their manuscript reviews and relevant reports during phase 4.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials
We have budgeted for the possibility that we may need to provide access to scientific journal articles to the workshop participants while they are working on their manuscripts. Our estimate provides an average of 10 articles per participant at an estimated access price of $35 per article. It may well be the case that some of the Writing Workshop participants do not require the use of this many articles on average; in which case costs will not be incurred. Participants must have expressed support from an involved SME to facilitate the purchase of any scientific article. The budget for journal access may only be partially utilized.

We have also budgeted for a small quantity of office supplies to accommodate the printing of agendas, training materials, or workshop materials needed to successfully execute and support in-country project activities.

We have budgeted for an effort based international communications capacity for our project team while they are in country implementing the workshop. The costs budgeted here reflect activating a moderate calling plan to support the efforts of the program manager and subject matter experts. To control for costs, calling time will be purchased in the form of 1,000 Kenyan Schilling scratch cards (roughly 10.00 USD - dependent on active exchange rate). Each of the four functional team members will be allocated a maximum of 5 scratch cards during this effort, and will be expected to use the resource wisely and efficiently with respect to the project. Scratch cards will be purchased on an as needed basis.

Lastly, these charges also reflect the provision of USB modems and associated moderate data plans to both the travelers and in country SME IIIs. These items will only be purchased if the situation dictates the need (i.e. inability to access online communications outright); otherwise, these modems will not be procured.

Other Direct Costs
Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts
Subcontracts will be issued to SMEs, RDAs, and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support the program manager 1 subject matter expert to Nairobi, Kenya to implement the writing workshop. The travel budget represents the estimated amount required; travel on the AEP contract is cost reimbursable.

Our travel budget assumes the workshop will be held on 6 consecutive days, with an additional day budgeted for set-up and coordination activities. If, through discussion with the Kenyan stakeholders, an alternative schedule is created or an alterative location is desired, travel costs may be impacted accordingly.

Kenyan SME III contractors will be provided with hotel, and per diem respective of their length of participation on this effort. Their cost for arriving to the venue will be covered independently; however, daily transport costs will be shared among the workshop team as a whole.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV

$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $0

12a CURRENT PERIOD OF PERFORMANCE

18 September 2015 15 February 2016

12b TD REV PERIOD OF PERFORMANCE

18 September 2015 – 15 February 2016

13. CONTRACTOR SIGNATURE AND DATE

(b)(6)

Signatu

Date: 23 September 2015

14. REGION

AFRICOM

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-c-0104	METABIOTA	14	B

4. TD TITLE	5. TOTAL TD ESTIMATE
Development of a writing workshop to mentor selected participants of the One Health Zoonotic Diseases Workshop held in Kenya on March 2015.	HOURS: 661 DOLLARS: $ **$113,925.42**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME (b)(6)	NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision to TD-14 provides additional guidance & clarification of the requirement to assist Metabiota in establishing a proposed implementation approach. This revision also extends the PoP end date from 15 February to 30 April 2016. During the PoP, Metabiota is expected to:

a. Identify organizers of the Regional Conference on Zoonotic Diseases in Eastern Africa and collaborate with them to hold a 6-day writing workshop (not including venue, food, and travel logistics as this will be coordinated via CLS) for 20 participants. Metabiota should provide a PM and PC (billing as SME1) for Project Coordination and Landscape Analysis. Metabiota should reach out directly to (b)(6) (b)(6) the main POC of the One Health Workshop to discuss what the vision for the implementation of the workshop is and to discuss SME support needed. Communication with (b)(6) should also include the discussion of the participants list, as the conference organizers have already identified them and will provide the names and draft manuscripts to Metabiota.

b. Coordinate with Kenyan collaborators to jointly identify no more than 3 Kenyan SMEs to participate in the writing workshop as well as pre- and post-workshop activities. An appropriate level for Kenyan SMEs would be SME1. For the first phase of Project Coordination and Landscape Analysis, the three Kenyan SMEs should also each not exceed 6 hours/week for two weeks. The writing coaches will provide mentorship to the participants and will help them convert their scientific data into a complete draft manuscript for a research paper to be submitted to a peer-review science journal. One manuscript will be developed per workshop participant. Metabiota wil assist in the development of up to 20 papers/manuscripts. Additional communications regarding the SME assignments should occur during the activities described in a.

c. Hypothesis Development and Article Framing- CBEP's expectation is that this workshop will provide the participants with the right skills and guidance to take their manuscripts to the next level, with the goal that that next level will be good enough for acceptance to a peer-reviewed journal. The SMEs will not need to contact the participants before the workshop due to the coordination through the Kenyan POCs and SMEs. Metabiota's technical SMEs (one from Metabiota and three Kenyans to be identified) will review the participants' manuscripts prior to the workshop. Each SME should not spend more than 20 hours total to complete the review and assessment of the manuscripts prior to the workshop as well as conduct any additional coordination among the SMEs. The SMEs will work together to determine if/how the manuscripts will be divided up as each SME may not need to conduct a detailed review of each manuscript. There may be additional SMEs identified for participation in all workshop activities (including pre- and post- workshop activities) by the Kenyan stakeholders but their time will not be funded by Metabiota. This should be discussed with the Kenyan POC noted above.

d. Writing Workshop Implementation- The workshop outline should be as follows: 1) the main workshop will consist of 5 days (Monday-Friday) where the SME's will work together with the participants, 2) 1 day after the workshop for the SME's to finalize the review of the manuscripts, and 3) the travel days needed to travel between the U.S. and Kenya. PC participation during the workshop is acceptable. However, oversight should not necessitate as many hours as the SMEs efforts during the workshop therefore Metabiota should propose PC hours planned to be spent only on this project, or provide sufficient clarification regarding PC tasks during the 6 working days to justify a full-time workload. The labor hours for each SME should not exceed 72 hours. PC hours are estimated at no more than 4 hours per day.

e. Paper Finalization and Publication Submission- CBEP and Metabiota will not be supporting or overseeing the submission of these manuscripts; for that reason, activities related to this should not be included in the proposed approach.

f. Post-workshop efforts- Post-workshop efforts will include the four technical SMEs (3 Kenyans and 1 Metabiota SME) over the course of 10 weeks to provide continued mentorship to all trainees until all manuscripts have been improved to publication quality. Additionally, Metabiota PM and PC (SME1) will continue to provide additional oversight and coordination between technical SME's and trainees to ensure all programmatic objectives and associated deliverables are met.

g. For Materials and Supplies: CBEP expects participants to have relevant papers they have used in the past (to develop draft manuscripts papers and the presentations given at the One Health Conference). However, limited access to journals should be provided by Metabiota. The access per participant should be no more than 10 articles per person. This is an average and downloads should be managed by the PM and/or SMEs. A total number of 200 papers is authorized however this is the maximum, which does not need to be met, and should be used as needed per participant, not necessarily divided evenly if some participants do not require additional resources.

PM and SME labor hours noted above should be the target level of effort, however CBEP grants some flexibility in the total number of hours per person per phase. Across all phases during the period of performance: PM hours shall not exceed 121 hours. Metabiota SME1 hours shall not exceed 165 hours, and Kenyan SME hours shall not exceed 125 hours each. Metabiota is expected to track all hours closely during each phase so that adjustments to the approach can be made as needed, and in coordination with CBEP, in order to keep within the allowed number of hours per person before it's too late to successfully complete the project within these allowed hours.

The period of performance for this effort will be from 18 September 2015 to 30 April 2016. CBEP anticipates the total time required to implement the requirement to be 32 weeks. Your technical approach, proposed budget, and basis of estimate for implementing this requirement is requested by 16 Sep 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Technical Approach
Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project phases and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. The following phases are required for this project:

Phase 1: Programmatic Coordination and Training Landscape Review
Phase 2: SME Review and Coordination
Phase 3: Writing Workshop Implementation
Phase 4: Post-workshop review and Summary Report Development

Phase 1 – Programmatic Coordination and Landscape Analysis (16 Sep - 24-Sep. 30, 2015)

Objective: Establish a communication and coordination plan with the Kenyan Zoonotic Disease Unit (ZDU), Global Implementation Solutions (GIS), and Conference to initiate collaboration and conduct a landscape review of technical writing capacities and needs in the One Health sector in Kenya.

Process: Metabiota, with direction from DTRA CBEP, will engage (b)(6) e main POC from the Regional Conference on Zoonotic Diseases in Eastern Africa, an event that took place in Naivasha, Kenya, March 2015. Through this collaboration Metabiota will develop an understanding of Kenya's technical writing capacities and needs in the One Health sector. Metabiota will receive the list of selected writing workshop participants from (b)(6) ki. Metabiota will also receive recommendation from (b)(6) for two mutually agreed upon Kenya based SME 3 technical writing experts to be brought on as independent contractors for this effort.

Deliverables:

- Deliverable 1: Submission of contacts list to include Writing Workshop participants and Kenyan SME III technical writing experts

Phase 2 – Pre-Workshop Participant Manuscript Review (Nov. 2, 2015-Jan. 29, 2016)

Objective: Selected participants set to attend the Writing Workshop will provide draft manuscripts for review by subject matter experts prior to their attendance. Technical writing SMEs will be able to gain a specific and in-depth understanding of the content they can expect during the writing workshop before attending.

Process: Metabiota, in coordination with DTRA-CBEP and (b)(6) , will request that the selected participants produce draft manuscripts for review by the identified technical writing SMEs. Each SME will spend a defined number of hours reviewing the materials, and gaining a more defined understanding of the participants' approach. The SMEs will not be in contact with the participants during this phase, but will communicate among themselves with the assistance of the program manager to ensure that manuscripts to be reviewed are divided up appropriately among the team.

Deliverables:

- Deliverable 1: Submission of participants' draft manuscripts to include hypotheses, writing concepts and an approach plan, along with statements of accessible, supporting data.

Phase 3– Writing Workshop Implementation (Feb. 8-13, 2016)

Objective: Conduct a six-day workshop on various aspects of technical writing in order to train and mentor twenty participants representing the Kenyan One Health research sector.

Process: Metabiota will coordinate with the SME mentors and participants to conduct the six-day training in Kenya. This training will include a five days of lecture and working group sessions to cover topics including but not limited to scientific paper formatting, styling, and general requirements; the ethics of journal publication and authorship, the inclusion of background research and citing references, and understanding the impact factor and journal submission organizational techniques. Each participant will have access to the coaches, and be able to work directly with the SMEs on their material. The sixth and final day will allow for collaboration between the SMEs to finalize the review of manuscripts before departing.

Deliverables:

- Deliverable 1: Submission of the Training Trip Report and After-Action Report detailing the overall training processes and lessons learned and the results of knowledge gained assessments.

Phase 4 – Post-Workshop Review and Summary Report Development (Feb. 14-29, 2016)

Objective: Develop final report and provide final manuscript review and post-workshop support to participants as needed.

Process: Metabiota will work jointly with the SME mentors and participants to provide technical and programmatic support during the post-workshop phase. SMEs will coordinate with each other to ensure that no effort goes wasted and that manuscript reviews are comprehensive and supportive of the intended skill enhancement of the writers. SMEs will be able to communicate with participants during this period. Once complete, Metabiota will develop a final report detailing the overall processes and lessons learned.

Deliverables:

- Deliverable 1: Final report detailing overall processes and lessons learned

Risk Management:

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
				Cost		
Subject Matter Expert Subcontracting	Due to limited insight into participant profiles and research activities, additional costs and time-delays may occur to identify and coordinate the most appropriate SME coordination, which may impact the ability to conduct this activity in full.	3	3	Medium	As soon as Metabiota has a basic understanding of the participants' work, Metabiota will begin contacting necessary SMEs, refining the list as better understanding develops. Metabiota will attempt to reach basic agreement with SMEs as soon as possible and issue authorization to proceed while subcontracts are being put into place.	(b)(4); (b)(6)
Programmatic labor hours	Following guidance from CBEP POC's, the current budget for Metabiota Program Management and Project Coordination hours are extremely low. As a result, and based on previous experience implementing overseas activities there is significant risk for budget overrun.	5	5	(b)(4); (b)(6)	Maximize efficiency regarding approved labor hours through best practice, and notification to DTRA CBEP contracting officer of expectations to run over budget.	
				Schedule		
Project Coordination	Kenya One Health Technical Writing Workshop involves a significant number of stakeholders and participants representing various organizations, putting implementation activities at risk of delay or cancellation.	5	2	Medium	Establish and hold regular calls with all stakeholders and identify multiple possible implementation dates. Identify critical components as early as possible and redirect efforts when it becomes clear that targeted implementation dates will not be achievable.	
				Performance		
Political Instability	Sporadic violence in northeastern Kenya may lead to risks of being unable to safely complete in-country work.	2	5	Medium	Coordinate closely with DTRA and AFRICOM to be aware of any potential risks to performers, and target a location for the workshop well away from risky areas.	

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$85,14[illegible]
1003	MATERIALS	$7,880
1004	ODCs	$3,542
1005	TRAVEL	$17,420
TOTAL		**$113,983**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Period of Performance

The Period of Performance for this effort is July 21, 2015 to February 29, 2016.

Labor

Costs for direct labor to support this activity is required for the following personnel:

All phases:

Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As some of our Subject Matter Experts will be independent consultants the Metabiota PM will additionally oversee and ensure that all project personnel adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PM will provide management oversight of the project team, including independent consultants throughout the span of the project.

The Metabiota PM will oversee the coordination between the Kenyan stakeholders and the workshop planning team, and will ensure the project team captures and keeps in account stakeholder input regarding key information relevant to the planning of the workshop. The PM will travel to Kenya to ensure the execution of the workshop proceeds smoothly and will provide oversight over all independent consultants. Lastly, the PM will provide oversight to ensure all required project closeout activities occur in a timely fashion.

Proposal Development - Phase 1:

Metabiota Subject Matter Expert I: The Metabiota SME I will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder.

Phase 2-4:

Subject Matter Expert III (2 total): We expect to identify two Kenya based SME III personnel with the support in large part from (b)(6) These SMEs will be fully qualified scientific experts with experience publishing in peer-reviewed journals. These SMEs will not require international travel, but will be compensated for domestic travel, and will be brought on as independent contractors to Metabiota.

The SMEs IIIs will each be assigned to work on reviewing manuscripts of the Writing workshop participants during phase 2. They will be tasked with workshop participation during phase 3, and final review during phase 4. These SMEs will be required to review relevant participant manuscripts closely during phase 2. This will require fully understanding the research that has been done, including a significant dive into the data collection and analysis that may have already been done to ensure that they utilize their time effectively during phase 3. During the workshop, SMEs will provide a mix of lectures discussing topics relevant to the authoring, editing, and publishing of scientific research, small group work reflecting those lectures, and one-on-one time with each of their assigned participants. Following the workshop, SMEs will provide follow-on mentoring to participants as they incorporate the lessons learned into the final drafts of their manuscript rev ews and relevant reports during phase 4.

Subject Matter Expert I (1 total): We expect to identify one US based Metabiota representative to serve as an SME I technical writer. This SME will be a fully qualified scientific expert with experience publishing in peer-reviewed journals.

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Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials
We have budgeted for the possibility that we may need to provide access to scientific journal articles to the workshop participants while they are working on their manuscripts. Our estimate provides an average of 10 articles per participant at an estimated access price of $35 per article. It may well be the case that some of the Writing Workshop participants do not require the use of this many articles on average; in which case costs will not be incurred. Participants must have expressed support from an involved SME to facilitate the purchase of any scientific article. The budget for journal access may only be partially utilized.

We have also budgeted for a small quantity of office supplies to accommodate the printing of agendas, training materials, or workshop materials needed to successfully execute and support in-country project activities.

Lastly, we have budgeted for international communications ability for our project team while they are in country implementing the workshop. The costs budgeted here reflect activating a moderate calling plan for each traveler's cell phones. These charges also reflect the provision of USB modems and associated moderate data plans to both the travelers and in country SME IIIs. These items will only be purchased if the situation dictates the need (i.e. inability to access online communications outright); otherwise, these modems will not be procured.

Other Direct Costs
Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts
Subcontracts will be issued to SMEs, RDAs, and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support the program manager 1 subject matter expert to Nairobi, Kenya to implement the writing workshop. The travel budget represents the estimated amount required; travel on the AEP contract is cost reimbursable.

Our travel budget assumes the workshop will be held on 6 consecutive days, with an additional day budgeted for set-up and coordination activities. If, through discussion with the Kenyan stakeholders, an alternative schedule is created or an alterative location is desired, travel costs may be impacted

accordingly.

Kenyan SME III contractors will be provided with hotel, and per diem respective of their length of participation on this effort. Their cost for arriving to the venue will be covered independently; however, daily transport costs w ll be shared among the workshop team as a whole.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 85 141	9/25/2015	4/30/2016
1003	MATERIALS	$ 7 690	9/25/2015	4/30/2016
1004	ODCs	$ 3.542	9/25/2015	4/30/2016
1005	TRAVEL	$ 17.420	9/25/2015	4/30/2016
	TOTAL	**$ 113,983**	9/25/2015	4/30/2016

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ **$113,983**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$113,983**

12a. CURRENT PERIOD OF PERFORMANCE

25 September 2015 – 15 February 2016

12b TD REV PERIOD OF PERFORMANCE

25 September 2015 – 30 April 2015

13. CONTRACTOR SIGNATURE AND DATE

Signature:_____

Date:_____

14. REGION

AFRICOM

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed qnantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing pnrposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-c-0104	METABIOTA	14	B

4. TD TITLE	5. TOTAL TD ESTIMATE.
Development of a writing workshop to mentor selected participants of the One Health Zoonotic Diseases Workshop held in Kenya on March 2015.	HOURS. 661 DOLLARS: $ **$113,925.42**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)	PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

This revision to TD-14 provides additional guidance & clarification of the requirement to assist Metabiota in establishing a proposed implementation approach. This revision also extends the PoP end date from 15 February to 30 April 2016. During the PoP, Metabiota is expected to:

a. Identify organizers of the Regional Conference on Zoonotic Diseases in Eastern Africa and collaborate with them to hold a 6-day writing workshop (not including venue, food, and travel logistics as this will be coordinated via CLS) for 20 participants. Metabiota should provide a PM and PC (billing as SME1) for Project Coordination and Landscape Analysis. Metabiota should reach out directly to (b)(6) (b)(6) the main POC of the One Health Workshop, to discuss what the vision for the implementation of the workshop is and to discuss SME support needed. Communication with (b)(6) should also include the discussion of the participants list, as the conference organizers have already identified them and will provide the names and draft manuscripts to Metabiota.

b. Coordinate with Kenyan collaborators to jointly identify no more than 3 Kenyan SMEs to participate in the writing workshop as well as pre- and post-workshop activities. An appropriate level for Kenyan SMEs would be SME1. For the first phase of Project Coordination and Landscape Analysis, the three Kenyan SMEs should also each not exceed 6 hours/week for two weeks. The writing coaches will provide mentorship to the participants and will help them convert their scientific data into a complete draft manuscript for a research paper to be submitted to a peer-review science journal. One manuscript will be developed per workshop participant. Metabiota wil assist in the development of up to 20 papers/manuscripts. Additional communications regarding the SME assignments should occur during the activities described in a.

c. Hypothesis Development and Article Framing- CBEP's expectation is that this workshop will provide the participants with the right skills and guidance to take their manuscripts to the next level, with the goal that that next level will be good enough for acceptance to a peer-reviewed journal. The SMEs will not need to contact the participants before the workshop due to the coordination through the Kenyan POCs and SMEs. Metabiota's technical SMEs (one from Metabiota and three Kenyans to be identified) will review the participants' manuscripts prior to the workshop. Each SME should not spend more than 20 hours total to complete the review and assessment of the manuscripts prior to the workshop as well as conduct any additional coordination among the SMEs. The SMEs will work together to determine if/how the manuscripts will be divided up as each SME may not need to conduct a detailed review of each manuscript. There may be additional SMEs identified for participation in all workshop activities (including pre- and post- workshop activities) by the Kenyan stakeholders but their time will not be funded by Metabiota. This should be discussed with the Kenyan POC noted above.

d. Writing Workshop Implementation- The workshop outline should be as follows: 1) the main workshop will consist of 5 days (Monday-Friday) where the SME's will work together with the participants, 2) 1 day after the workshop for the SME's to finalize the review of the manuscripts, and 3) the travel days needed to travel between the U.S. and Kenya. PC participation during the workshop is acceptable. However, oversight should not necessitate as many hours as the SMEs efforts during the workshop, therefore Metabiota should propose PC hours planned to be spent only on this project, or provide sufficient clarification regarding PC tasks during the 6 working days to justify a full-time workload. The labor hours for each SME should not exceed 72 hours. PC hours are estimated at no more than 4 hours per day.

e. Paper Finalization and Publication Submission- CBEP and Metabiota will not be supporting or overseeing the submission of these manuscripts; for that reason, activities related to this should not be included in the proposed approach.

f. Post-workshop efforts- Post-workshop efforts will include the four technical SMEs (3 Kenyans and 1 Metabiota SME) over the course of 10 weeks to provide continued mentorship to all trainees until all manuscripts have been improved to publication quality. Additionally, Metabiota PM and PC (SME1) will continue to provide additional oversight and coordination between technical SME's and trainees to ensure all programmatic objectives and associated deliverables are met.

g. For Materials and Supplies CBEP expects participants to have relevant papers they have used in the past (to develop draft manuscripts papers and the presentations given at the One Health Conference). However, limited access to journals should be provided by Metabiota The access per participant should be no more than 10 articles per person. This is an average and downloads should be managed by the PM and/or SMEs. A total number of 200 papers is authorized however this is the maximum, which does not need to be met, and should be used as needed per participant, not necessarily divided evenly if some participants do not require additional resources.

PM and SME labor hours noted above should be the target level of effort, however CBEP grants some flexibility in the total number of hours per person per phase. Across all phases during the period of performance: PM hours shall not exceed 121 hours. Metabiota SME1 hours shall not exceed 165 hours, and Kenyan SME hours shall not exceed 125 hours each. Metabiota is expected to track all hours closely during each phase so that adjustments to the approach can be made as needed, and in coordination with CBEP, in order to keep within the allowed number of hours per person before it's too late to successfully complete the project within these allowed hours.

The period of performance for this effort will be from 18 September 2015 to 30 April 2016. CBEP anticipates the total time required to implement the requirement to be 32 weeks. Your technical approach, proposed budget, and basis of estimate for implementing this requirement is requested by 16 Sep 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Technical Approach
Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project phases and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. The following phases are required for this project:

Phase 1: Programmatic Coordination and Training Landscape Review
Phase 2: SME Review and Coordination
Phase 3: Writing Workshop Implementation
Phase 4: Post-workshop review and Summary Report Development

Phase 1 – Programmatic Coordination and Landscape Analysis (16 Sep - 24-Sep. 2015)

Objective: Establish a communication and coordination plan with the Kenyan Zoonotic Disease Unit (ZDU), Global Implementation Solutions (GIS), and Conference to initiate collaboration and conduct a landscape review of technical writing capacities and needs in the One Health sector in Kenya.

Process: Metabiota, with direction from DTRA CBEP, will engage Dr. Kariuki Njenga, the main POC from the Regional Conference on Zoonotic Diseases in Eastern Africa, an event that took place in Naivasha, Kenya, March 2015. Through this collaboration, Metabiota will develop an understanding of Kenya's technical writing capacities and needs in the One Health sector. Metabiota will receive the list of selected writing workshop participants from (b)(6) Metabiota will also receive recommendation from (b)(6) for three mutually agreed upon Kenya based SME / technical writing experts to be brought on as independent contractors for this effort.

Deliverables:
- Deliverable 1: Submission of contacts list to include Writing Workshop participants and Kenyan SME technical writing experts

Phase 2 – Pre-Workshop Participant Manuscript Review (2 Nov. 2015 – 5 Feb. 2016)

Objective: Selected participants set to attend the Writing Workshop will provide draft manuscripts for review by subject matter experts prior to their attendance. Technical writing SMEs will be able to gain a specific and in-depth understanding of the content they can expect during the writing workshop before attending.

Process: Metabiota, in coordination with DTRA-CBEP and (b)(6) will request that the selected participants produce draft manuscripts for review by the identified technical writing SMEs. Each SME will be assigned a specific set of participant manuscripts and spend a defined number of hours reviewing the materials, thus allowing them to gain a more defined understanding of the participants' approach. The SMEs will not be in contact with the participants during this phase, but will communicate among themselves with the assistance of the program manager to ensure that manuscripts to be reviewed are divided up appropriately among the team.

Deliverables:
- Deliverable 1: Submission of participants' draft manuscripts to DTRA CBEP representation to serve as a baseline for comparison to improved writings. Draft manuscripts to include hypotheses, writing concepts and an approach plan, along with statements of accessible, supporting data.

Phase 3– Writing Workshop Implementation (8 – 13 Feb. 2016)

Objective: Conduct a six-day workshop on various aspects of technical writing in order to train and mentor twenty participants representing the Kenyan One Health research sector.

Process: Metabiota will coordinate with the SME mentors and participants to conduct the six-day training in Kenya. This training will include a five days of lecture and working group sessions to cover topics including but not limited to scientific paper formatting, styling, and general requirements; the ethics of journal publication and authorship; the inclusion of background research and citing references, and understanding the impact factor and journal submission organizational techniques. Each participant will have access to the coaches, and be able to work directly with the SMEs on their material. The sixth and final day will allow for collaboration between the SMEs to finalize the review of manuscripts before departing. Metabiota in country support will include Project Coordinator (SME 1) (b)(6) and AEP Deputy Director (b)(6) Metabiota will additionally provide remote technical support from SME 1 (b)(6)

Deliverables:
- Deliverable 1: Submission of the Training Trip Report and After-Action Report detailing the overall training processes and lessons learned and the results of knowledge gained assessments.

Phase 4 – Post-Workshop Review and Summary Report Development (14 Feb. – 30 Apr. 2016)

Objective: Develop final report and provide final manuscript review and post-workshop support to participants as needed.

Process: Metabiota will work jointly with the SME mentors and participants to provide technical and programmatic support during the post-workshop phase. SMEs will coordinate with each other to ensure that no effort goes wasted and that manuscript reviews are comprehensive and supportive of the intended skill enhancement of the writers. SMEs will be able to communicate with participants during this period. Once complete, Metabiota will develop a final report detailing the overall processes and lessons learned.

Deliverables:
- Deliverable 1: Final report detailing (i) overall processes; (ii) SME assessment comparing original and final manuscripts against a variety of relevant quality factors (factors and format TBD collaboratively between Metabiota and CBEP); (iii) list of journal submissions (or planned journal submissions) for each manuscript; and (iv) lessons learned.

- Deliverable 2: Submission of updated, edited, and improved post-workshop participant draft manuscripts, developed in concert with identified subject matter experts, to DTRA CBEP representation to serve as comparison points to the baseline for improvement evaluation.

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix:

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
			Cost			(b)(4); (b)(6)
Subject Matter Expert Subcontracting	Due to limited insight into participant profiles and research activities, additional costs and time-delays may occur to identify and coordinate the most appropriate SME coordination, which may impact the ability to conduct this activity in full.	3	3	Medium	As soon as Metabiota has a basic understanding of the participants' work, Metabiota will begin contacting necessary SMEs, refining the list as better understanding develops. Metabiota will attempt to reach basic agreement with SMEs as soon as possible and issue authorization to proceed while subcontracts are being put into place.	
Participant Identification and Coordination	Due to Metabiota's limited insight regarding the participants of the Writing Workshop, and their respective academic and logistical capacities (i.e. possession of laptops, research tools, previously cited materials, quality of data sources, etc.), it is possible that the quality of improvement for their manuscripts may be hindered	4	3	Medium-High	Metabiota will ensure that effective coordination and communication with Kenyan Stakeholders is employed to ensure that a maximal amount of information about the participants, their research, and their respective capacities' is garnered before the workshop. This will allow for the controlling of mentioned confounders, and a managed increase in efficiency with regard to review and operation.	
Programmatic labor hours	Following guidance from CBEP POC's, the current budget for Metabiota Program Management and Project Coordination hours are extremely low. As a result, and based on previous experience implementing overseas activities, there is significant risk for budget overrun	5	5	(b)(4); (b)(6)	Maximize efficiency regarding approved labor hours through best practice, and notification to DTRA CBEP contracting officer of expectations to run over budget.	
			Schedule			
Project Coordination	Kenya One Health Technical Writing Workshop involves a significant number of stakeholders and participants representing various organizations, putting implementation activities at risk of delay or cancellation.	5	2	Medium	Establish and hold regular calls with all stakeholders and identify multiple possible implementation dates. Identify critical components as early as possible and redirect efforts when it becomes clear that targeted implementation dates will not be achievable.	
			Performance			
Political Instability	Sporadic violence in northeastern Kenya may lead to risks of being unable to safely complete in-country work.	2	5	Medium	Coordinate closely with DTRA and AFRICOM to be aware of any potential risks to performers, and target a location for the workshop well away from risky areas.	

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$85,083.94
1003	MATERIALS	$7,879.63
1004	ODCs	$3,541.85
1005	TRAVEL	$17,420.00
TOTAL		**$113,925.42**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES .

Period of Performance

The Period of Performance for this effort is July 21, 2015 through 30 April 2016

Labor
Costs for direct labor to support this activity is required for the following personnel.

All phases:
Metabiota Program Manager: The Metabiota PM (b)(6) will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As some of our Subject Matter Experts will be independent consultants the Metabiota PM will additionally oversee and ensure that all project personnel adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PM will provide management oversight of the project team, including independent consultants throughout the span of the project.

The Metabiota PM will oversee the coordination between the Kenyan stakeholders and the workshop planning team, and will ensure the project team captures and keeps in account stakeholder input regarding key information relevant to the planning of the workshop. The PM will provide remote backstop support during the execution of the writing workshop to ensure the effort proceeds smoothly. The PM will provide oversight and support to all staff and independent consultants during this phase. Lastly, the PM wil provide oversight to ensure all required project closeout activities occur in a timely fashion.

Phases 1, 3, and 4:

Metabiota Subject Matter Expert I: Metabiota SME I (b)(6), will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder.

(b)(6) ll serve as an SME I Coordinator during phases 3 and 4 of this projec (b)(6) will travel to Kenya to provide coordination support during the implementation of the Writing Workshop. She will assis the PM to ensure that the effort proceeds smoothly and that all project personnel adhere to DoD and DTRA CBEP standard operating procedures and operational requirements. (b)(6) will restrict her time expenditure in country to an operational minimum while ensuring consistency in coordination support (b)(6) will also provide assistance and support to the PM during phase 4 final deliverable development and project closeout activities.

Phase 3:

Metabiota AEP Deputy Director (b)(6) will travel to Kenya to support writing workshop implementation activities. (b)(6) will provide overall technical support to the Kenyan SMEs tasked with providing a mix of lectures discussing topics relevant to the authoring, editing, and publishing of scientific research, small group work reflecting those lectures, and one-on-one time with each of their assigned participants (b)(6) will additionally provide direct one-on-one support to all writing workshop participants. Of note (b)(6) is part of the AEP Program Management Office (PMO) and will not directly charge time to this project.

Phase 2-4

Subject Matter Expert I (3 total). We plan to engage three Kenya based SME I personnel to include (b)(6) (b)(6) ese SMEs will be fully qualified scientific experts with experience publishing in peer-reviewed journals. These SMEs will not require international travel, but will be compensated for domestic travel, and will be brought on as independent contractors to Metabiota.

The Kenyan SMEs Is will each be assigned to work on reviewing manuscripts of the Writing workshop participants during phase 2. They will be tasked with workshop participation during phase 3, and final review during phase 4. These SMEs will be required to review relevant participant manuscripts closely during phase 2. This will require fully understanding the research that has been done, including a significant dive into the data collection and analysis that may have already been done to ensure that they utilize their time effectively during phase 3. During the workshop, SMEs will provide a mix of lectures discussing topics relevant to the authoring. editing, and publishing of scientific research, small group work reflecting those lectures, and one-on-one time with each of their assigned participants. Following the workshop, SMEs will provide follow-on mentoring to participants as they incorporate the lessons learned into the final drafts of their manuscript reviews and relevant reports during phase 4.

US-Based SME I – Technical (1 total [(b)(6)] will serve as an SME I technical writer. This SME will be a fully qualified scientific expert with experience publishing in peer-reviewed journals. Dr. Parekh is an epidemiologist with a focus on microbiology and is well-suited to manage technical revisions for this effort.

The SME I will each be assigned to work on reviewing manuscripts of the Writing Workshop participants during phase 2 in concert with the Kenyan SME Is to avoid duplication of efforts. They will be tasked with workshop participation during phase 3, and final review during phase 4. This SME will be required to review relevant participant manuscripts closely during phase 2. This will require fully understanding the research that has been done, including a significant dive into the data collection and analysis that may have already been done to ensure that they utilize their time effectively during phase 3. During the workshop, t[(b)(6)] SME I) will provide remote support to their assigned participants, and will coordinate with Metabiota Staff in country to ensure effective communication and participant engagement. Following the workshop, This SME will provide follow-on mentoring to participants as they incorporate the lessons learned into the final drafts of their manuscript reviews and relevant reports during phase 4.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials
We have budgeted for the possibility that we may need to provide access to scientific journal articles to the workshop participants while they are working on their manuscripts. Our estimate provides an average of 10 articles per participant at an estimated access price of $35 per article. It may well be the case that some of the Writing Workshop participants do not require the use of this many articles on average, in which case costs will not be incurred. Participants must have expressed support from an involved SME to facilitate the purchase of any scientific article. The budget for journal access may only be partially utilized.

We have also budgeted for a small quantity of office supplies to accommodate the printing of agendas, training materials, or workshop materials needed to successfully execute and support in-country project activities.

We have budgeted for an effort based international communications capacity for our project team while they are in country implementing the workshop. The costs budgeted here reflect activating a moderate calling plan to support the efforts of the program manager and subject matter experts. To control for costs, calling time will be purchased in the form of 1,000 Kenyan Schilling scratch cards (roughly 10.00 USD - dependent on active exchange rate). Each of the four functional team members will be allocated a maximum of 5 scratch cards during this effort, and will be expected to use the resource wisely and efficiently with respect to the project. Scratch cards will be purchased on an as needed basis.

Lastly, these charges also reflect the provision of USB modems and associated moderate data plans to both the travelers and in country SMEs. These items will only be purchased if the situation dictates the need (i.e. inability to access online communications outright); otherwise, these modems will not be procured.

Other Direct Costs
Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Independent Consulting Agreements
Consulting agreements will be issued to SMEs and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support the project coordinator (SME I) and deputy director to Nairobi, Kenya to implement the writing workshop. The travel budget represents the estimated amount required; travel on the AEP contract is cost reimbursable.

Our travel budget assumes the workshop will be held on 6 consecutive days, with an additional day budgeted for set-up and coordination activities. If, through discussion with the Kenyan stakeholders, an alternative schedule is created or an alterative location is desired, travel costs may be impacted accordingly.

Kenyan SME I contractors will be provided with hotel, and per diem respective of their length of participation on this effort. Their cost for arriving to the venue will be covered independently; however, daily transport costs will be shared among the workshop team as a whole.

10. FUNDING AUTHORIZED THIS TD REV

1002	LABOR	$	85,083.94	9/25/2015	4/30/2016
1003	MATERIALS	$	7,879.63	9/25/2015	4/30/2016
1004	ODCs	$	3,541.85	9/25/2015	4/30/2016
1005	TRAVEL	$	17,420.00	9/25/2015	4/30/2016
	TOTAL	**$**	**113,925.42**	9/25/2015	4/30/2016

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$113,925.42**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$113,925.42**

12a. CURRENT PERIOD OF PERFORMANCE
25 September 2015 – 15 February 2016

12b. TD REV PERIOD OF PERFORMANCE
25 September 2015 – 30 April 2016

13. CONTRACT [redacted] AND DATE
[(b)(6)]
Signa
Date: **3 March 2016**

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
AFRICOM	(b)(6)	X (b)(6) (b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-c-0104	METABIOTA	16	

4. TD TITLE	5. TOTAL TD ESTIMATE:
Subject Matter Expertise in Geographic Information Systems (GIS) Modeling and Regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia	HOURS: 520 DOLLARS: $ **$150,000.00**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide expertise in geographic information systems (GIS) modeling and regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia in accordance with SOW, Section 4.4. Task 2 and Task 4. This expertise should be provided by a scientist (SME I or SME II) with experience of working with Former Soviet Union (FSU) researchers and should focus on providing subject matter expertise in GIS modeling and regional SNPs for CBEP-funded research projects GG-19, GG-20 and GG-27.

For GG-19, this expertise should include guidance and mentorship of National Center for Disease Control (NCDC) staff on using GIS to determine a risk assessment for exposure to environmental and animal sources of *Francisella tularensis*. and should focus on producing risk assessment maps.

For GG-20, the expert should provide mentorship to Laboratory of Ministry of Agriculture (LMA) and National Food Agency (NFA) personnel on using GIS techniques to manage and visualize (map) the ecological niche and d stribution models of *Coxiella burnetii* and conduct advanced spatial and temporal modeling and statistical analysis of datasets.

For GG-27, the expert should aid in the identification and selection of regional foci of *Bacillus anthracis* and the corresponding environmental sampling sites, conduct spatial genetic pattern analysis and risk factor mapping of *B. anthracis* using GIS, aid in the production of GIS models of the geographic distribution of *B. anthracis* across the south Caucasus, and serve as a subject matter expert on regional Single Nucleotide Polymorphisms (SNPs), including a well-established Georgian SNP typing panel. Mentorship activities should focus on providing guidance in stringent metrics and international standards in GIS and SNP data interpretation and analysis to NCDC, LMA and NFA scientists.

It is expected that implementation of this requirement will be approximately 13 weeks worth of effort consisting of (a) 3 x 1 week trips (detailed below), (b) up to 1 week before each trip for preparation activities, (c) up to 1 week after each trip for reporting and follow-up actions, and (d) up to 4 additional weeks of effort for coordination and remote reach-back support. The expert is expected to conduct two trips to Tbilisi, Georgia, to provide on-site mentorship to Georgian colleagues for GG-19, GG-20 and GG-27 research projects. Timing for these trips should be determined based on project needs. The expert is also expected to conduct a third trip to attend the regional GG-27/AJ TAP-11 kick-off meeting in Baku, Azerbaijan in October 2015.

The period of performance for this effort will be from 15 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $150.000 is requested by 4 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES)

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $0

12a. CURRENT PERIOD OF PERFORMANCE

15 Sep 2015 –15 May 2016

12b TD REV PERIOD OF PERFORMANCE

15 Sep 2015 – 15 May 2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:_____

Date:_____

14. REGION

EUCOM

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
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    b. Budget: Contractor enter proposed qnantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	17	

4. TD TITLE	5. TOTAL TD ESTIMATE:
Grantsmanship Support and Mentorship in Georgia	HOURS ____520_____ DOLLARS: $ ____**$150,000.00**_____

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME (b)(6)	NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide expertise in grantsmanship at the Richard G. Lugar Center for Public Health Research and at the Laboratory of the Ministry of Agriculture in Georgia in accordance with SOW, Section 4.3, Task 3 and Section 4.5, Task 5. This expertise should be provided by a scientist (SME I or SME II) with experience in proposal development mentoring and should provide guidance in preparing and submitting grant proposals to the DTRA Broad Agency Announcement (BAA) or other competitive research solicitations. More specifically, the mentor should focus on providing mentorship in the following areas: (a) assist National Center for Disease Control (NCDC) researchers with accurate development of direct and indirect costs as part of the proposal preparation, (b) assist Laboratory of Ministry of Agriculture (LMA) personnel with proposal development and submission processes to include development of scientific hypotheses, analysis of research data, drafting of white papers and full proposals, and reviewing proposal evaluations and recommendations.

It is expected that implementation of this requirement will require approximately 13 weeks of effort consisting of 2 x 1 week trips to Tbilisi, Georgia, with additional time allotted for pre- and post-trip activities and follow-up actions, in order to provide on-site mentorship to Georgian colleagues. Timing for these trips should be determined based on project needs. An additional 7 weeks of effort is anticipated for coordination, document reviews, and remote reach-back support.

The period of performance for this effort will be from 21 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $150,000 is requested by 17 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation:

Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. A key assumption for this effort is that the Georgian scientists have their own research ideas which can be shaped into proposals. A second key assumption is that Metabiota Subject Matter Experts providing grantsmanship support will **not** be the primary drafters of any white papers or full proposals, but rather will only provide assistance in drafting said white papers and proposals. A third key assumption is that the Georgian scientists will not require any assistance in analysis of any data which may be presented in the proposals as preliminary work. It is anticipated that the plan for TD-017 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) 1) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:

From the information provided in Box 8, Metabiota assumes that there are several relevant POCs at both NCDC and LMA which will be involved in the grantsmanship efforts. The Metabiota PM and PC will, upon approval of the TD, engage relevant DTRA CBEP and Lugar Center stakeholders to begin understanding what efforts they would like to work on. Upon approval and receipt of additional information, the Metabiota PM and PC will identify a grantsmanship subject matter expert (billed as SME 2) and work to either onboard them as a Metabiota employee, or establish a subcontract or independent consulting arrangement with the VS. The Metabiota PM, PC, and SME 2 will participate in communications with stakeholders at NCDC and LMA in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the SME 2 to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO-Tbilisi.

In-Country Grantsmanship Mentoring

Mentoring will consist of in-country and remote mentoring. Based on our understanding of the requirements, Metabiota does not expect to be required to provide data analysis support to the NCDC or LMA scientists. In order to ensure the success of the in-country mentoring visits, the PM, PC, and SME 2 will work with the POCs at NCDC and LMA to establish a list of deliverables to be provided to Metabiota prior to any in-country mentoring. These deliverables may include budgetary data, drafts of proposed plans and SOPs, drafts of white papers and full proposals, and analyses of preliminary data complete with methodology. The PM and PC will maintain regular communications with the SME 2 to ensure that the SME 2 has all required resources for mentoring. After assessing the need for in-country mentoring, the SME 2 will implement the mentoring work plans, only assisting with actual proposal writing in cases of last resort.

Reach-back Support / Remote Mentoring:

Based on our understanding of the requirements, Metabiota does not expect to be required to provide primary authorship support to any proposals, but does expect the SME 2 to be available to occasionally provide remote editorial guidance and limited assistance with drafting of select passages. Through regular communications with the respective project teams, Metabiota will be made aware of any additional subject matter expertise requests. The SME 2 will address these needs as they arise.

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Cost (b)(4); (b)(6)						
Non-response of DTRA CBEP technical POCs	The short turnaround led to only a brief communication with A&AS regarding clarification of requirements. Thus our proposed labor solution may be inadequate, impacting cost.	5	4		Upon approval, continue efforts to contact DTRA Technical POCs and all other relevant stakeholders.	**Med-High**
Performance						
Scientific research topics	We have no knowledge of what the breadth of scientific research topics is that NCDC and LMA are interested in pursuing. Funding probabilities are already low at most organizations, and while much of grantsmanship can be generalized, domain-specific knowledge can be key in some instances. Without knowing in advance what topics will be proposed, it seems highly likely that grantsmanship mentoring will not operate at maximum effectiveness.	5	3	**Med-High**	Identify grantsmanship SME with broad experiences in the biological sciences.	**Med-High**

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN)

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$125,669
1003	MATERIALS	$1,842
1004	ODCs	$948
1005	TRAVEL	$8,273
TOTAL		**$136,732.08**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Expert may be an independent consultants or subcontractor, the Metabiota PM will additionally provide management oversight of the project subcontractors (microbiology SME) and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipat ng, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the SME 2, to include leading regular coordination calls with the SME 2, participating in regular communications between the proposal stakeholders and the grantsmanship SME, and coordinating with the SME 2 to ensure all project requirements and deliverables are met and the program remains within scope, budget,

and timeline. The PC will aid the PM and SME 2 in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the microbiology SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Subject Matter Expert 2: The SME 2 will serve as the grantsmanship SME. The SME 2 will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each proposal, the needs and expectations of the Georgian scientists, and the grantsmanship assistance needed. The SME 2 will provide mentoring as directed by the respective project leads.

Materials

We have budgeted for the purchase of up to 50 scientific journal articles for use in supporting the proposal writing efforts at a projected average cost of $35 per journal article.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts

Subcontracts will be issued to the SME 2 and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested to support the deployment of the SME 2 to Tbilisi, Georgia for two (2) one-week deployments. No additional travel is projected based on the requirements provided. The travel budget represents the estimated amount required; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $0

12a. CURRENT PERIOD OF PERFORMANCE

21 Sep 2015 15 May 2016

12b. TD REV PERIOD OF PERFORMANCE

21 Sep 2015 – 15 May 2016

13. CONTRACTOR SIGNATURE AND DATE

(b)(6)

Signatu

Date: 17 September 2015

14. REGION

EUCOM

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	17	

4. TD TITLE	5. TOTAL TD ESTIMATE:
Grantsmanship Support and Mentorship in Georgia	HOURS: 520 DOLLARS: $ **$150,000.00**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME (b)(6)	NAME (b)(6)
PHON (b)(6) MAIL. (b)(6)	PHONE (b)(6) EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide expertise in grantsmanship at the Richard G. Lugar Center for Public Health Research and at the Laboratory of the Ministry of Agriculture in Georgia in accordance with SOW, Section 4.3, Task 3 and Section 4.5, Task 5. This expertise should be provided by a scientist (SME I or SME II) with experience in proposal development mentoring and should provide guidance in preparing and submitting grant proposals to the DTRA Broad Agency Announcement (BAA) or other competitive research solicitations. More specifically, the mentor should focus on providing mentorship in the following areas: (a) assist National Center for Disease Control (NCDC) researchers with accurate development of direct and indirect costs as part of the proposal preparation, (b) assist Laboratory of Ministry of Agriculture (LMA) personnel with proposal development and submission processes to include development of scientific hypotheses, analysis of research data, drafting of white papers and full proposals, and reviewing proposal evaluations and recommendations.

It is expected that implementation of this requirement will require approximately 13 weeks of effort consisting of 2 x 1 week trips to Tbilisi, Georgia, with additional time allotted for pre- and post-trip activities and follow-up actions, in order to provide on-site mentorship to Georgian colleagues. Timing for these trips should be determined based on project needs. An additional 7 weeks of effort is anticipated for coordination, document reviews, and remote reach-back support.

The period of performance for this effort will be from 21 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $150,000 is requested by 17 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation:

Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. A key assumption for this effort is that the Georgian scientists have their own research ideas which can be shaped into proposals. A second key assumption is that Metabiota Subject Matter Experts providing grantsmanship support will not be the primary drafters of any white papers or full proposals, but rather will only provide assistance in drafting said white papers and proposals. A third key assumption is that the Georgian scientists will not require any assistance in analysis of any data which may be presented in the proposals as preliminary work. It is anticipated that the plan for TD-017 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) 1) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:

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In-Country Grantsmanship Mentoring

Mentoring will consist of in-country and remote mentoring. Based on our understanding of the requirements, Metabiota does not expect to be required to provide data analysis support to the NCDC or LMA scientists. In order to ensure the success of the in-country mentoring visits, the PM, PC, and SME 2 will work with the POCs at NCDC and LMA to establish a list of deliverables to be provided to Metabiota prior to any in-country mentoring. These deliverables may include budgetary data, drafts of proposed plans and SOPs, drafts of white papers and full proposals, and analyses of preliminary data complete with methodology. The PM and PC will maintain regular communications with the SME 2 to ensure that the SME 2 has all required resources for mentoring. After assessing the need for in-country mentoring, the SME 2 will implement the mentoring work plans, only assisting with actual proposal writing in cases of last resort.

Reach-back Support / Remote Mentoring:

Based on our understanding of the requirements, Metabiota does not expect to be required to provide primary authorship support to any proposals, but does expect the SME 2 to be available to occasionally provide remote editorial guidance and limited assistance with drafting of select passages. Through regular communications with the respective project teams, Metabiota will be made aware of any additional subject matter expertise requests. The SME 2 will address these needs as they arise.

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
			Cost			
Non-response of DTRA CBEP technical POCs	The short turnaround led to only a brief communication with A&AS regarding clarification of requirements. Thus our proposed labor solution may be inadequate, impacting cost.	5	4	(b)(4); (b)(6)	Upon approval, continue efforts to contact DTRA Technical POCs and all other relevant stakeholders.	**Med-High**
			Performance			
Scientific research topics	We have no knowledge of what the breadth of scientific research topics is that NCDC and LMA are interested in pursuing. Funding probabilities are already low at most organizations, and while much of grantsmanship can be generalized, domain-specific knowledge can be key in some instances. Without knowing in advance what topics will be proposed, it seems highly likely that grantsmanship mentoring will not operate at maximum effectiveness.	5	3	**Med-High**	Identify grantsmanship SME with broad experiences in the biological sciences.	**Med-High**

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$125,669
1003	MATERIALS	$1,842
1004	ODCs	$948
1005	TRAVEL	$8,273
TOTAL		**$136,732**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES)

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity

As our Subject Matter Expert may be an independent consultants or subcontractor. the Metabiota PM will additionally provide management oversight of the project subcontractors (microbiology SME) and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipat ng, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the SME 2, to include leading regular coordination calls with the SME 2, participating in regular communications between the proposal stakeholders and the grantsmanship SME, and coordinating with the SME 2 to ensure all project requirements and deliverables are met and the program remains within scope, budget,

and timeline. The PC will aid the PM and SME 2 in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the microbiology SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Subject Matter Expert 2: The SME 2 will serve as the grantsmanship SME. The SME 2 will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each proposal the needs and expectations of the Georgian scientists, and the grantsmanship assistance needed. The SME 2 will provide mentoring as directed by the respective project leads.

Materials

We have budgeted for the purchase of up to 50 scientific journal articles for use in supporting the proposal writing efforts at a projected average cost of $35 per journal article.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts

Subcontracts will be issued to the SME 2 and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested to support the deployment of the SME 2 to Tbilisi, Georgia for two (2) one-week deployments. No additional travel is projected based on the requirements provided. The travel budget represents the estimated amount required; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	125,669	9/23/2015	5/15/2016
1003	MATERIALS	$	1,842	9/23/2015	5/15/2016
1004	ODCs	$	948	9/23/2015	5/15/2016
1005	TRAVEL	$	8,273	9/23/2015	5/15/2016
	TOTAL	**$**	**136,732**	9/23/2015	5/15/2016

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ **$136,732**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$136,732**

12a. CURRENT PERIOD OF PERFORMANCE

23 Sep 2015 –15 May 2016

12b. TD REV PERIOD OF PERFORMANCE

23 Sep 2015 – 15 May 2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:

Date:

14. REGION

EUCOM

15. TECHNICAL POINTS OF CONTACT

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	17	

4. TD TITLE

Grantsmanship Support and Mentorship in Georgia

5. TOTAL TD ESTIMATE:

HOURS: 520 DOLLARS: $ **$150,000.00**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHONE: (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC

NAME: (b)(6)

PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide expertise in grantsmanship at the Richard G. Lugar Center for Public Health Research and at the Laboratory of the Ministry of Agriculture in Georgia in accordance with SOW, Section 4.3. Task 3 and Section 4.5, Task 5. This expertise should be provided by a scientist (SME I or SME II) with experience in proposal development mentoring and should provide guidance in preparing and submitting grant proposals to the DTRA Broad Agency Announcement (BAA) or other competitive research solicitations. More specifically, the mentor should focus on providing mentorship in the following areas: (a) assist National Center for Disease Control (NCDC) researchers with accurate development of direct and indirect costs as part of the proposal preparation, (b) assist Laboratory of Ministry of Agriculture (LMA) personnel with proposal development and submission processes to include development of scientific hypotheses, analysis of research data, drafting of white papers and full proposals, and reviewing proposal evaluations and recommendations.

It is expected that implementation of this requirement will require approximately 13 weeks of effort consisting of 2 x 1 week trips to Tbilisi, Georgia, with additional time allotted for pre- and post-trip activities and follow-up actions, in order to provide on-site mentorship to Georgian colleagues. Timing for these trips should be determined based on project needs. An additional 7 weeks of effort is anticipated for coordination, document reviews, and remote reach-back support.

The period of performance for this effort will be from 21 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $150,000 is requested by 17 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES)

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ **$0**	21 Sep 2015 – 15 May 2016	Signature:
11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:	12b. TD REV PERIOD OF PERFORMANCE	Date:
$ **$0**	21 Sep 2015 – 15 May 2016	

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM	(b)(6)	(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed qnantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing pnrposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	18	

4. TD TITLE	5. TOTAL TD ESTIMATE:
On-site Expertise in Genomic Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia	HOURS. ____1432_____ DOLLARS: $ ____$380,000.00_____

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHONE. EMAIL. (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE).

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide on-site expertise in genomic research activities at the Richard G. Lugar Center for Public Health Research in Georgia in accordance with SOW Section 4.2, Task 2, Section 4.4, Task 4, Section 4.5, Task 5, and Section 4.6, Task 6. This expertise can be provided by a visiting scientist and/or scientific mentor and should focus on providing subject matter expertise in genomic research for CBEP-funded research projects or related follow-on work conducted at the Lugar Center. This expertise should include guidance and mentorship on designing and implementing experimental procedures, troubleshooting methodology and data analysis methods for on-going research projects at the Lugar Center. Additionally, the expert should assist by providing guidance and mentorship in operations of the Genomics Center at the Lugar Center.

Mentorship activities should focus on providing guidance in stringent metrics and international standards in genomic data collection, analysis and interpretation. Additionally, on-site personnel should provide mentorship to Georgian colleagues in comprehending and applying core concepts and methodologies in comparative genomics for use in building applied biosurveillance research proposals. The research mentor should assist Georgian researchers with manuscript preparation of CBEP-funded research in genomics for submission to peer-reviewed scientific journals. This on-site interaction should facilitate motivation towards independent knowledge-building inquiry and critical thinking skills needed for future sustainable research.

The period of performance for this effort will be from 21 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $380,000 is requested by 17 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation:

Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. A key assumption for this effort is that the Georgian scientists are generally capable of conducting genomics and bioinformatics analyses on their own but that the requested support personnel will occasionally be asked to directly perform genomic and bioinformatics analyses. A second key assumption for this effort is that it is expected to be a full-time expat position. It is anticipated that the plan for TD-018 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project

Project Coordination:

From the information provided in Box 8, Metabiota assumes that the unspecified CBEP-funded research projects are ongoing affairs led by third parties. In order to effectively ensure that an appropriate genomics subject matter expert (genomics SME, billed as a Visiting Scientist/VS) is available to provide the requested mentoring, the Metabiota PM and PC will, upon approval of the TD, continue to engage relevant DTRA CBEP and Lugar Center stakeholders to identify how, where, and when project status updates are communicated (for example, monthly teleconferences, weekly email exchanges, etc.) and what the onboarding and daily requirements are for working at the Lugar Center. Upon approval and receipt of additional information, the Metabiota PM and PC will identify a VS and work to either onboard them as a Metabiota employee, or establish a subcontract or independent consulting arrangement with the VS. The Metabiota PM, PC, and VS will participate in project communications in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the VS to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO-Tbilisi.

Mentoring and Performance of both Genomics and Bioinformatics Analyses and Operational Oversight of the Genomics Center:

Mentoring will consist of in-country mentoring. Based on our understanding of the requirements, Metabiota does not expect to be required to provide primary genomics analysis support to the various projects being conducted at the Lugar Center. The PM and PC will maintain regular communications with the VS to ensure that the VS has all required resources for mentoring. After assessing the need for genomics mentoring, the VS will work with the PM, PC, and other appropriate stakeholders to develop mentoring work plans. The VS will then implement the mentoring work plans, only assisting with actual analyses and scientific writing when necessary. Additionally, the VS will provide oversight over the operations of the genomics center. The VS will work with Lugar Center POCs to identify candidates for mentorship in operating the genomics center, and work with the PM, PC, and Lugar Center stakeholders to develop and execute a strategy for developing these candidates' abilities to operate the genomic center without guidance.

Risk Management:

In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to

include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix:

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
			Cost, Schedule, Performance, Quality			
Non-response of DTRA CBEP technical POCs	The short turnaround led to only a brief communication with A&AS regarding clarification of requirements and background materials. Thus our proposed labor solution may be inadequate, impacting cost. It may also impact schedule, performance, and quality, as we may proceed to identify a SME who is incapable of meeting project requirements in a timely fashion or to the satisfaction of project stakeholders.	5	4	(b)(4); (b)(6)	Upon approval, continue efforts to contact DTRA Technical POCs and all other relevant stakeholders (for example, A&AS). During proposal development Metabiota has researched multiple possible SMEs who could potentially address project requirements.	**Med-High**
			Cost			
SME identification	We assume that an appropriate VS/SM cannot be located who already lives in Georgia (or is a Georgian living elsewhere) and have thus built in time to get the VS/SM onboarded and over to Georgia. Should a VS/SM be identified who does not require the onboarding process (travel trainings, submission of documents), mentorship may begin sooner, and drive up total labor costs beyond those projected.	3	5	**Med-High**	Notify DTRA as soon as possible as to what the projected date will be for hitting 75% and exhaustion of funds on CLIN1001 for this effort.	**Med-High**
			Schedule / Performance			
Travel requirements	We assume that an appropriate VS/SM cannot be located who already lives in Georgia (or is a Georgian living elsewhere) and have thus built in time to get the VS/SM onboarded and over to Georgia. If mentorship needs are required prior to late November, it may be difficult to meet those needs unless a VS/SM is identified who is already resident to Georgia.	3	5	**Med-High**	Clarify travel requirements for extended TDY postings with DTRA, and ask for an exemption to 45-day window if it still holds.	**Med-High**

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$361,460
1003	MATERIALS	$4,579
1004	ODCs	$14,180
1005	TRAVEL	$4,217
TOTAL		**$384,435.70**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES).

Labor

Costs for direct labor to support this activity is required for the following personnel:

All phases:

Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of

DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Expert may be an independent consultant or subcontractor, the Metabiota PM will additionally provide management oversight of the genomics SME and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the genomics SME, to include leading regular coordination calls with the genomics SME, participating in regular communications between the project stakeholders and the genomics SME, and coordinating with the genomics SME to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline. The PC will aid the PM and VS in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the genomics SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Project Coordination & Mentorship phases only:
Visiting Scientist: The VS will serve as the genomics SME. The VS will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project, the needs and expectations of the Georgian scientists, and the genomics subject matter expertise needed. The VS will provide mentoring as directed by the respective project leads. The VS will also provide oversight and management of the Genomics Center at the Lugar Center.

Materials
We expect to procure a modern laptop capable of running the same genomics and bioinformatics software being used at the Lugar Center. We also will need to procure the appropriate bioinformatics software and standard productivity software as well. As we have not received information detailing the TD-specific items, we have inserted placeholder numbers here.

Other Direct Costs
Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts
Subcontracts will be issued to the VS and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support the deployment of the VS to Tbilisi, Georgia for the initial deployment travel and final return. No additional travel is projected based on the requirements provided. The travel budget represents the estimated amount required; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable. Also of note, lodging at GSA rates for Tbilisi, Georgia have included to this budget. It is assumed that the TBD VS will require some time to identify long term lodging (length of assignment), which would by covered by his expat uplift.

10. FUNDING AUTHORIZED THIS TD REV.

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CON[illegible]E
$ $0	21 Sep 2015 – 15 May 2016	(b)(6)
11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:	12b. TD REV PERIOD OF PERFORMANCE	Signatu[illegible]
$ $0	21 Sep 2015 – 15 May 2016	Date: 17 September 2015

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM	(b)(6)	X (b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	18	

4. TD TITLE	5. TOTAL TD ESTIMATE:
On-site Expertise in Genomic Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia	HOURS: 1432 DOLLARS: $ **$380,000.00**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)	PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide on-site expertise in genomic research activities at the Richard G. Lugar Center for Public Health Research in Georgia in accordance with SOW Section 4.2, Task 2, Section 4.4, Task 4, Section 4.5. Task 5, and Section 4.6. Task 6. This expertise can be provided by a visiting scientist and/or scientific mentor and should focus on providing subject matter expertise in genomic research for CBEP-funded research projects or related follow-on work conducted at the Lugar Center. This expertise should include guidance and mentorship on designing and implementing experimental procedures, troubleshooting methodology and data analysis methods for on-going research projects at the Lugar Center. Additionally, the expert should assist by providing guidance and mentorship in operations of the Genomics Center at the Lugar Center.

Mentorship activities should focus on providing guidance in stringent metrics and international standards in genomic data collection, analysis and interpretation. Additionally, on-site personnel should provide mentorship to Georgian colleagues in comprehending and applying core concepts and methodologies in comparative genomics for use in building applied biosurveillance research proposals. The research mentor should assist Georgian researchers with manuscript preparation of CBEP-funded research in genomics for submission to peer-reviewed scientific journals. This on-site interaction should facilitate motivation towards independent knowledge-building inquiry and critical thinking skills needed for future sustainable research.

The period of performance for this effort will be from 21 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $380,000 is requested by 17 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation:

Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. A key assumption for this effort is that the Georgian scientists are generally capable of conducting genomics and bicinformatics analyses on their own but that the requested support personnel will occasionally be asked to directly perform genomic and bioinformatics analyses. A second key assumption for this effort is that it is expected to be a full-time expat position. It is anticipated that the plan for TD-018 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:

From the information provided in Box 8. Metabiota assumes that the unspecified CBEP-funded research projects are ongoing affairs led by third parties. In order to effectively ensure that an appropriate genomics subject matter expert (genomics SME, billed as a Visiting Scientist/VS) is available to provide the requested mentoring, the Metabiota PM and PC will, upon approval of the TD, continue to engage relevant DTRA CBEP and Lugar Center stakeholders to identify how, where, and when project status updates are communicated (for example, monthly teleconferences, weekly email exchanges, etc.) and what the onboarding and daily requirements are for working at the Lugar Center. Upon approval and receipt of additional information, the Metabiota PM and PC will identify a VS and work to either onboard them as a Metabiota employee, or establish a subcontract or independent consulting arrangement with the VS. The Metabiota PM, PC, and VS will participate in project communications in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the VS to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO-Tbilisi.

Mentoring and Performance of both Genomics and Bioinformatics Analyses and Operational Oversight of the Genomics Center:

Mentoring will consist of in-country mentoring. Based on our understanding of the requirements, Metabiota does not expect to be required to provide primary genomics analysis support to the various projects being conducted at the Lugar Center. The PM and PC will maintain regular communications with the VS to ensure that the VS has all required resources for mentoring. After assessing the need for genomics mentoring, the VS will work with the PM, PC, and other appropriate stakeholders to develop mentoring work plans. The VS will then implement the mentoring work plans, only assisting with actual analyses and scientific writing when necessary. Additionally, the VS will provide oversight over the operations of the genomics center. The VS will work with Lugar Center POCs to identify candidates for mentorship in operating the genomics center, and work with the PM, PC, and Lugar Center stakeholders to develop and execute a strategy for developing these candidates' abilities to operate the genomic center without guidance.

Risk Management:

In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to

include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix:

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
			Cost, Schedule, Performance, Quality	(b)(4); (b)(6)		
Non-response of DTRA CBEP technical POCs	The short turnaround led to only a brief communication with A&AS regarding clarification of requirements and background materials. Thus our proposed labor solution may be inadequate, impacting cost. It may also impact schedule, performance, and quality, as we may proceed to identify a SME who is incapable of meeting project requirements in a timely fashion or to the satisfaction of project stakeholders.	5	4		Upon approval, continue efforts to contact DTRA Technical POCs and all other relevant stakeholders (for example A&AS). During proposal development Metabiota has researched multiple possible SMEs who could potentially address project requirements.	**Med-High**
			Cost			
SME identification	We assume that an appropriate VS/SM cannot be located who already lives in Georgia (or is a Georgian living elsewhere) and have thus built in time to get the VS/SM onboarded and over to Georgia. Should a VS/SM be identified who does not require the onboarding process (travel trainings, submission of documents) mentorship may begin sooner, and drive up total labor costs beyond those projected.	3	5	**Med-High**	Notify DTRA as soon as possible as to what the projected date will be for hitting 75% and exhaustion of funds on CLIN1001 for this effort.	**Med-High**
			Schedule / Performance			
Travel requirements	We assume that an appropriate VS/SM cannot be located who already lives in Georgia (or is a Georgian living elsewhere) and have thus built in time to get the VS/SM onboarded and over to Georgia. If mentorship needs are required prior to late November, it may be difficult to meet those needs unless a VS/SM is identified who is already resident to Georgia.	3	5	**Med-High**	Clarify travel requirements for extended TDY postings with DTRA, and ask for an exemption to 45-day window if it still holds.	**Med-High**

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$361,460
1003	MATERIALS	$4,579
1004	ODCs	$14,180
1005	TRAVEL	$4,217
TOTAL		**$384,436**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES)

Labor

Costs for direct labor to support this activity is required for the following personnel:

All phases:

Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of

DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Expert may be an independent consultant or subcontractor, the Metabiota PM will additionally provide management oversight of the genomics SME and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipat ng, managing and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the genomics SME, to include leading regular coordination calls with the genomics SME, participating in regular communications between the project stakeholders and the genomics SME, and coordinating with the genomics SME to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline. The PC will aid the PM and VS in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the genomics SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Project Coordination & Mentorship phases only:
Visiting Scientist: The VS will serve as the genomics SME. The VS will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project, the needs and expectations of the Georgian scientists, and the genomics subject matter expertise needed. The VS will provide mentoring as directed by the respective project leads. The VS will also provide oversight and management of the Genomics Center at the Lugar Center.

Materials
We expect to procure a modern laptop capable of running the same genomics and bioinformatics software being used at the Lugar Center. We also will need to procure the appropriate bioinformatics software and standard productivity software as well. As we have not received information detailing the TD-specific items, we have inserted placeholder numbers here.

Other Direct Costs
Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts
Subcontracts will be issued to the VS and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support the deployment of the VS to Tbilisi, Georgia for the initial deployment travel and final return. No additional travel is projected based on the requirements provided The travel budget represents the estimated amount required: precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable. Also of note, lodging at GSA rates for Tbilisi, Georgia have included to this budget. It is assumed that the TBD VS will require some time to identify long term lodging (length of assignment), which would by covered by his expat uplift.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	361,460	9/23/2015	5/15/2016
1003	MATERIALS	$	4,579	9/23/2015	5/15/2016
1004	ODCs	$	14,180	9/23/2015	5/15/2016
1005	TRAVEL	$	4,217	9/23/2015	5/15/2016
	TOTAL	**$**	**384,436**	9/23/2015	5/15/2016

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ **$384,436**	21 Sep 2015 –15 May 2016	Signature:
11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:	12b. TD REV PERIOD OF PERFORMANCE	Date:
$ **$384,436**	21 Sep 2015 – 15 May 2016	

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM	(b)(6)	(b)(6)
		(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	18	

4. TD TITLE

On-site Expertise in Genomic Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia

5. TOTAL TD ESTIMATE:

HOURS: 1432 DOLLARS: $ **$380,000.00**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHONE: (b)(6) MAIL: (b)(6)

7. CONTRACTOR POC

NAME: (b)(6)

PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide on-site expertise in genomic research activities at the Richard G. Lugar Center for Public Health Research in Georgia in accordance with SOW Section 4.2, Task 2, Section 4.4, Task 4, Section 4.5, Task 5, and Section 4.6, Task 6. This expertise can be provided by a visiting scientist and/or scientific mentor and should focus on providing subject matter expertise in genomic research for CBEP-funded research projects or related follow-on work conducted at the Lugar Center. This expertise should include guidance and mentorship on designing and implementing experimental procedures, troubleshooting methodology and data analysis methods for on-going research projects at the Lugar Center. Additionally, the expert should assist by providing guidance and mentorship in operations of the Genomics Center at the Lugar Center.

Mentorship activities should focus on providing guidance in stringent metrics and international standards in genomic data collection, analysis and interpretation. Additionally, on-site personnel should provide mentorship to Georgian colleagues in comprehending and applying core concepts and methodologies in comparative genomics for use in building applied biosurveillance research proposals. The research mentor should assist Georgian researchers with manuscript preparation of CBEP-funded research in genomics for submission to peer-reviewed scientific journals. This on-site interaction should facilitate motivation towards independent knowledge-building inquiry and critical thinking skills needed for future sustainable research.

The period of performance for this effort will be from 21 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $380,000 is requested by 17 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES)

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $0

12a. CURRENT PERIOD OF PERFORMANCE

21 Sep 2015 –15 May 2016

12b. TD REV PERIOD OF PERFORMANCE

21 Sep 2015 15 May 2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:

Date:

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM	Georgia Country Manage (b)(6) (b)(6) Georgia Country Manager, (b)(6) (b)(6) EUCOM Regional Science Manager, (b)(6) (b)(6)	X (b)(6) COR / J3CTB Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact Details
8. Description of the Technical Directive Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	19	

4. TD TITLE	5. TOTAL TD ESTIMATE:
On-site Expertise in Microbiology Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia	HOURS. ____1432_____ DOLLARS: $ ____**$380,000.00**_____

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME (b)(6)	NAME (b)(6)
PHONE (b)(6) AIL (b)(6)	PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE).

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide on-site expertise in microbiology research activities at the Richard G Lugar Center for Public Health Research in Georgia in accordance with SOW Section 4.2, Task 2, Section 4.4, Task 4, Section 4.5, Task 5, and Section 4.6, Task 6. This expertise can be provided by a visiting scientist and/or scientific mentor and should focus on providing subject matter expertise in microbial research for CBEP-funded research projects conducted at the Lugar Center. The expertise should include guidance and mentorsh p on designing and implementing experimental procedures, troubleshooting methodology, and analyzing data for on-going research projects at the Lugar Center. The expert should provide technical and scientific assistance in the conduct of research projects and implementation of new diagnostics, new technology and sustainability initiatives. Additionally, the expert should assist to improve communications and integration between Georgian institutes and with international agencies collaborating on Lugar Center research efforts.

Mentorship activities should focus on providing guidance in stringent metrics and international standards in data collection, analysis and data interpretation. Additionally, the research mentor should assist Georgian researchers with manuscript preparation of CBEP-funded research for submission to peer-reviewed scientific journals. This on-site interaction should facilitate motivation towards independent knowledge-building inquiry and critical thinking skills needed for future sustainable research.

The period of performance for this effort will be from 21 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $380,000 is requested by 17 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation:

Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. A key assumption for this effort is that the Georgian scientists are generally capable of conducting microbiological analyses on their own but that the requested support personnel will occasionally be asked to directly perform microbiological analyses. A second key assumption for this effort is that it is expected to be a full-time expat position. It is anticipated that the plan for TD-019 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:

From the information provided in Box 8, Metabiota assumes that the unspecified CBEP-funded research projects are ongoing affairs led by third parties. In order to effectively ensure that an appropriate microbiology subject matter expert (microbiology SME, billed as a Visiting Scientist/VS) is available to provide the requested mentoring, the Metabiota PM and PC will, upon approval of the TD, continue to engage relevant DTRA CBEP and Lugar Center stakeholders to identify how, where, and when project status updates are communicated (for example, monthly teleconference, weekly email exchanges, etc.) and what the onboarding and daily requirements are for working at the Lugar Center. Upon approval and receipt of additional information, the Metabiota PM and PC will identify a VS and work to either onboard them as a Metabiota employee, or establish a subcontract or independent consulting arrangement with the VS. The Metabiota PM, PC, and VS will participate in project communications in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the VS to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO-Tbilisi.

Mentoring and Performance of Microbiological Research:

Mentoring will be conducted in-country based on our understanding of the requirements. Metabiota does not expect to be required to provide primary microbiological analysis support to the various projects being conducted at the Lugar Center. The PM and PC will maintain regular communications with the VS to ensure that the VS has all required resources for mentoring. After assessing the need for microbiology mentoring, the VS will work with the PM, PC, and other appropriate stakeholders to develop mentoring work plans. The VS will then implement the mentoring work plans, only assisting with actual analyses and scientific writing when necessary. Additionally, the VS will provide oversight over the operations of the genomics center. The VS will work with Lugar Center POCs to identify candidates for mentorship in operating the genomics center, and work with the PM and PC to develop a strategy for developing these candidates' abilities to operate the genomic center without guidance.

Risk Management:

In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to

include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
			Cost, Schedule, Performance, Quality			
Non-response of DTRA CBEP technical POCs	The short turnaround led to only a brief communication with A&AS regarding clarification of requirements and background materials. Thus our proposed labor solution may be inadequate, impacting cost. It may also impact schedule, performance, and quality, as we may proceed to identify a SME who is incapable of meeting project requirements in a timely fashion or to the satisfaction of project stakeholders.	5	4	(b)(4); (b)(6)	Upon approval, continue efforts to contact DTRA Technical POCs and all other relevant stakeholders (for example, A&AS). During proposal development Metabiota has researched multiple possible SMEs who could potentially address project requirements.	**Med-High**
			Cost			
SME identification	We assume that an appropriate VS/SM cannot be located who already lives in Georgia (or is a Georgian living elsewhere) and have thus built in time to get the VS/SM on boarded and over to Georgia. Should a VS/SM be identified who does not require the onboarding process (travel trainings, submission of documents), mentorship may begin sooner, and drive up total labor costs beyond those projected.	3	5	**Med-High**	Notify DTRA as soon as possible as to what the projected date will be for hitting 75% and exhaustion of funds on CLIN1001 for this effort.	**Med-High**
			Schedule / Performance			
Travel requirements	We assume that an appropriate VS/SM cannot be located who already lives in Georgia (or is a Georgian living elsewhere) and have thus built in time to get the VS/SM on boarded and over to Georgia. If mentorship needs are required prior to late November, it may be difficult to meet those needs unless a VS/SM is identified who is already resident to Georgia.	3	5	**Med-High**	Clarify travel requirements for extended TDY postings with DTRA, and ask for an exemption to 45-day window if it still holds.	**Med-High**

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$361,460
1003	MATERIALS	$2,474
1004	ODCs	$14,180
1005	TRAVEL	$4,217
TOTAL		**$382,330.30**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Labor

Costs for direct labor to support this activity is required for the following personnel:

All phases:

Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Expert may be an independent consultants or subcontractor, the Metabiota PM will additionally provide management oversight of the project subcontractors (microbiology SME) and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the microbiology SME, to include leading regular coordination calls with the microbiology SME, participating in regular communications between the project stakeholders and the microbiology SME, and coordinating with the microbiology SME to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline. The PC will aid the PM and VS in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the microbiology SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Visiting Scientist: The VS will serve as the microbiology SME. The VS will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project, the needs and expectations of the Georgian scientists, and the microbiological subject matter expertise needed. The VS will provide mentoring as directed by the respective project leads.

Materials

We expect to procure a modern laptop complete with standard productivity software for use by the VS. The cost number provided here represents an estimate of the costs, and may vary depending on factors beyond Metabiota control.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts

Subcontracts will be issued to the VS and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested to support the deployment of the VS to Tbilisi, Georgia for the initial deployment travel and final return, including a period of up to 1 week (7 days) for securing permanent lodging arrangements. No additional travel is projected based on the requirements provided. The travel budget represents the estimated amount required based on USG lodging and per diem rates; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable. As noted, lodging at GSA rates for Tbilisi, Georgia have included to this budget. It is assumed that the TBD VS will require some time to identify long term lodging (length of assignment), which would by covered by his expat uplift.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ $0 11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV: $ $0	21 Sep 2015 –15 May 2016 12b. TD REV PERIOD OF PERFORMANCE 21 Sep 2015 – 15 May 2016	(b)(6) Signatu Date: 17 September 2015

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM	Georgia Country Manager, (b)(6) (b)(6) Georgia Country Manager (b)(6) (b)(6) EUCOM Regional Science Manager (b)(6) (b)(6)	X (b)(6) COR / J3CTB Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cumulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	19	

4. TD TITLE	5. TOTAL TD ESTIMATE:
On-site Expertise in Microbiology Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia	HOURS: 1432 DOLLARS: $ **$380,000.00**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE (b)(6) MAIL (b)(6)	PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide on-site expertise in microbiology research activities at the Richard G. Lugar Center for Public Health Research in Georgia in accordance with SOW Section 4.2. Task 2, Section 4.4. Task 4, Section 4.5, Task 5, and Section 4.6. Task 6. This expertise can be provided by a visiting scientist and/or scientific mentor and should focus on providing subject matter expertise in microbial research for CBEP-funded research projects conducted at the Lugar Center. The expertise should include guidance and mentorship on designing and implementing experimental procedures, troubleshooting methodology, and analyzing data for on-going research projects at the Lugar Center. The expert should provide technical and scientific assistance in the conduct of research projects and implementation of new diagnostics, new technology and sustainability initiatives. Additionally, the expert should assist to improve communications and integration between Georgian institutes and with international agencies collaborating on Lugar Center research efforts.

Mentorship activities should focus on providing guidance in stringent metrics and international standards in data collection, analysis and data interpretation. Additionally, the research mentor should assist Georgian researchers with manuscript preparation of CBEP-funded research for submission to peer-reviewed scientific journals. This on-site interaction should facilitate motivation towards independent knowledge-building inquiry and critical thinking skills needed for future sustainable research.

The period of performance for this effort will be from 21 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $380,000 is requested by 17 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation:

Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. A key assumption for this effort is that the Georgian scientists are generally capable of conducting microbiological analyses on their own but that the requested support personnel will occasionally be asked to directly perform microbiological analyses. A second key assumption for this effort is that it is expected to be a full-time expat position. It is anticipated that the plan for TD-019 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:

From the information provided in Box 8, Metabiota assumes that the unspecified CBEP-funded research projects are ongoing affairs led by third parties. In order to effectively ensure that an appropriate microbiology subject matter expert (microbiology SME, billed as a Visiting Scientist/VS) is available to provide the requested mentoring, the Metabiota PM and PC will, upon approval of the TD, continue to engage relevant DTRA CBEP and Lugar Center stakeholders to identify how, where, and when project status updates are communicated (for example, monthly teleconference, weekly email exchanges, etc.) and what the onboarding and daily requirements are for working at the Lugar Center. Upon approval and receipt of additional information, the Metabiota PM and PC will identify a VS and work to either onboard them as a Metabiota employee, or establish a subcontract or independent consulting arrangement with the VS. The Metabiota PM, PC, and VS will participate in project communications in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the VS to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO-Tbilisi.

Mentoring and Performance of Microbiological Research:

Mentoring will be conducted in-country based on our understanding of the requirements. Metabiota does not expect to be required to provide primary microbiological analysis support to the various projects being conducted at the Lugar Center. The PM and PC will maintain regular communications with the VS to ensure that the VS has all required resources for mentoring. After assessing the need for microbiology mentoring, the VS will work with the PM, PC, and other appropriate stakeholders to develop mentoring work plans. The VS will then implement the mentoring work plans, only assisting with actual analyses and scientific writing when necessary. Additionally, the VS will provide oversight over the operations of the genomics center. The VS will work with Lugar Center POCs to identify candidates for mentorship in operating the genomics center, and work with the PM and PC to develop a strategy for developing these candidates' abilities to operate the genomic center without guidance.

Risk Management:

In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to

include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
			Cost, Schedule, Performance, Quality			
Non-response of DTRA CBEP technical POCs	The short turnaround led to only a brief communication with A&AS regarding clarification of requirements and background materials. Thus our proposed labor solution may be inadequate, impacting cost. It may also impact schedule, performance, and quality, as we may proceed to identify a SME who is incapable of meeting project requirements in a timely fashion or to the satisfaction of project stakeholders.	5	4	(b)(4); (b)(6)	Upon approval, continue efforts to contact DTRA Technical POCs and all other relevant stakeholders (for example A&AS). During proposal development Metabiota has researched multiple possible SMEs who could potentially address project requirements.	**Med-High**
			Cost			
SME identification	We assume that an appropriate VS/SM cannot be located who already lives in Georgia (or is a Georgian living elsewhere) and have thus built in time to get the VS/SM on boarded and over to Georgia. Should a VS/SM be identified who does not require the onboarding process (travel trainings submission of documents), mentorship may begin sooner, and drive up total labor costs beyond those projected.	3	5	**Med-High**	Notify DTRA as soon as possible as to what the projected date will be for hitting 75% and exhaustion of funds on CLIN1001 for this effort.	**Med-High**
			Schedule / Performance			
Travel requirements	We assume that an appropriate VS/SM cannot be located who already lives in Georgia (or is a Georgian living elsewhere) and have thus built in time to get the VS/SM on boarded and over to Georgia. If mentorship needs are required prior to late November, it may be difficult to meet those needs unless a VS/SM is identified who is already resident to Georgia.	3	5	**Med-High**	Clarify travel requirements for extended TDY postings with DTRA, and ask for an exemption to 45-day window if it still holds.	**Med-High**

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$361,460
1003	MATERIALS	$2,474
1004	ODCs	$14,180
1005	TRAVEL	$4,217
TOTAL		**$382,330**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES)

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Expert may be an independent consultants or subcontractor the Metabiota PM will additionally provide management oversight of the project subcontractors (microbiology SME) and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the microbiology SME, to include leading regular coordination calls with the microbiology SME, participating in regular communications between the project stakeholders and the microbiology SME, and coordinating with the microbiology SME to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline. The PC will aid the PM and VS in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the microbiology SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Visiting Scientist: The VS will serve as the microbiology SME. The VS will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project, the needs and expectations of the Georgian scientists, and the microbiological subject matter expertise needed. The VS will provide mentoring as directed by the respective project leads.

Materials
We expect to procure a modern laptop complete with standard productivity software for use by the VS. The cost number provided here represents an estimate of the costs, and may vary depending on factors beyond Metabiota control.

Other Direct Costs
Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts
Subcontracts will be issued to the VS and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support the deployment of the VS to Tbilisi, Georgia for the initial deployment travel and final return, including a period of up to 1 week (7 days) for securing permanent lodging arrangements. No additional travel is projected based on the requirements provided. The travel budget represents the estimated amount required based on USG lodging and per diem rates; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable. As noted, lodging at GSA rates for Tbilisi, Georgia have included to this budget. It is assumed that the TBD VS will require some time to identify long term lodging (length of assignment), which would by covered by his expat uplift.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	361,460	9/23/2015	5/15/2016
1003	MATERIALS	$	2,474	9/23/2015	5/15/2016
1004	ODCs	$	14,180	9/23/2015	5/15/2016
1005	TRAVEL	$	4,217	9/23/2015	5/15/2016
	TOTAL	**$**	**382,331**	9/23/2015	5/15/2016

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ $382,331 11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV: $ $382,331	23 Sep 2015 –15 May 2016 12b. TD REV PERIOD OF PERFORMANCE 23 Sep 2015 – 15 May 2016	Signature: Date:

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM	Georgia Country Manager (b)(6) (b)(6) Georgia Country Manager (b)(6) (b)(6) EUCOM Regional Science Manag (b)(6) (b)(6)	(b)(6) X (b)(6) COR / J3C1B Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cumulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	19	

4. TD TITLE	5. TOTAL TD ESTIMATE:
On-site Expertise in Microbiology Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia	HOURS: 1432 DOLLARS: $ **$380,000.00**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME (b)(6)
PHONE (b)(6) EMAIL: (b)(6)	PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide on-site expertise in microbiology research activities at the Richard G. Lugar Center for Public Health Research in Georgia in accordance with SOW Section 4.2, Task 2, Section 4.4, Task 4, Section 4.5, Task 5, and Section 4.6, Task 6. This expertise can be provided by a visiting scientist and/or scientific mentor and should focus on providing subject matter expertise in microbial research for CBEP-funded research projects conducted at the Lugar Center. The expertise should include guidance and mentorship on designing and implementing experimental procedures, troubleshooting methodology, and analyzing data for on-going research projects at the Lugar Center. The expert should provide technical and scientific assistance in the conduct of research projects and implementation of new diagnostics, new technology and sustainability initiatives. Additionally, the expert should assist to improve communications and integration between Georgian institutes and with international agencies collaborating on Lugar Center research efforts.

Mentorship activities should focus on providing guidance in stringent metrics and international standards in data collection, analysis and data interpretation. Additionally, the research mentor should assist Georgian researchers with manuscript preparation of CBEP-funded research for submission to peer-reviewed scientific journals. This on-site interaction should facilitate motivation towards independent knowledge-building inquiry and critical thinking skills needed for future sustainable research.

The period of performance for this effort will be from 21 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $380,000 is requested by 17 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES)

10. FUNDING AUTHORIZED THIS TD REV.

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ $0 11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV: $ $0	21 Sep 2015 –15 May 2016 12b. TD REV PERIOD OF PERFORMANCE 21 Sep 2015 – 15 May 2016	Signature:_____ Date: . . . . .

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM	Georgia Country Manager (b)(6) Georgia Country Manager (b)(6) EUCOM Regional Science Manager (b)(6)	X (b)(6) COR / J3CTB Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact Details
8. Description of the Technical Directive Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd, Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	20	

4. TD TITLE	5. TOTAL TD ESTIMATE:
Gabon Initial Engagement SME Support	HOURS. ____60_____ DOLLARS: $ ____**$50,000**_____

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)	PHONE: (b)(6) EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide a Subject Matter Expert (SME) support on Gabon health systems and laboratory capabilities in accordance with SOW, Section 4.4, Task 2. This SME will provide technical support to the CBEP Gabon Country Manager for initial engagement activities with Gabonese ministerial officials, provide historical context and technical advice on gap analyses, and recommend CBEP engagement approaches with the Government of Gabon.

It is expected that implementation of this requirement will be approximately 100 hours of work consisting of (a) 1 x 7 day trip with CBEP representatives to Gabon in late Jan 2016, (b) bi-weekly (every other week) coordination meetings (est. 1 hour/each) before the trip, (c) weekly coordination meetings (est. 1 hours/each) for approximately 2 months after the trip, (d) written report conveying personal knowledge and expertise as well as engagement recommendations following the trip, (e) review of country engagement strategy documents (est. 5 hours).

The period of performance for this effort will be from 14 December 2015 to 31 March 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $50,000 is requested by 9 December 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation:

Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. Given the short suspense, it was not possible to have conversations with the technical POCs listed prior to the development of this response. It is anticipated that the plan for TD-020 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Research and Data Analyst (RDA)) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:

In order to effectively ensure that an appropriate subject matter expert is available to provide the requested support, the Metabiota PM and PC will, upon approval of the TD, engage relevant DTRA CBEP stakeholders to clarify the type and extent of support required. Upon approval and receipt of additional information, the Metabiota PM and PC will identify appropriate SMEs.

From the information provided in Box 8, Metabiota's key assumption is that the purpose of this trip is to make introductions and build relationships with Gabonese personnel and institutions, and thus selecting SMEs with ***positive existing relationships is critical***. Metabiota has preliminarily identified a Francophone SME with extensive history working in Gabon; he has positive relationships with most (but not all) institutions and government ministries in Gabon relevant to the DTRA CBEP mission.

While our SME can provide extensive historical knowledge of the institution known as CIRMF (Centre International de Recherches Medicales de Franceville) in support of this technical direction, Metabiota believes that there is an unacceptable level of corporate risk to the company and operational risk to DTRA for him to attend meetings at CIRMF, and as such, recommends the additional travel of the AEP Deputy Director to mitigate corporate and operational risk

Together, the Metabiota team will actively participate in project communications in order to prepare for the in-country SME support and project closeout phases. As these project communications occur, the Metabiota SME will leverage his existing relationships with Gabonese personnel to assist DTRA CBEP stakeholders in developing an agenda and setting up meetings to occur during the week of travel.

The Metabiota PM and PC will work with the SME to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure that any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS.

In-country SME support

Based on our understanding of the requirements, the Metabiota SME will attend meetings with DTRA CBEP personnel. During these meetings, the Metabiota SME will facilitate introductions between DTRA CBEP and Gabonese personnel, and participate in discussions about CBEP objectives, lending technical expertise and advice where needed. Metabiota anticipates holding debriefs and strategy sessions with DTRA CBEP personnel each evening to recap each day's meetings and discuss the next day's meetings.

Project closeout

Upon return from Gabon, the Metabiota SME will participate in regular meetings with DTRA CBEP personnel to fully capture information gained during the in-country trip. The SME will also generate a report detailing that information, along with capturing as much information as is practicable from the SME's personal experiences. The SME, with the Metabiota PM and PC's guidance, will work with the DTRA CBEP personnel to understand

DTRA CBEP goals in Gabon and the region and create a list of suggested engagements (high-level only; Metabiota cannot provide suggestions on detailed work to be done as this may be construed as a conflict of interest). The Metabiota team will also review strategy documents provided by DTRA CBEP and provide feedback. Lastly, upon request, the Metabiota team will generate a final project report summarizing all activities conducted in this effort.

Risk Management

Metabiota has identified potential risks which may be obstacles to accomplishing DTRA CBEP goals for this technical direction. They are listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Cost, Schedule, Performance, Quality						
Short proposal turnaround time	The short turnaround did not allow for extensive discussion with Technical POCs regarding clarification of requirements and background materials. Thus our proposed labor solution may be inadequate, impacting cost. It may also impact schedule, performance, and quality, as we may proceed to identify a SME who is incapable of meeting project requirements in a timely fashion or to the satisfaction of project stakeholders.	5	4	(b)(4); (b)(6)	Upon approval of the TD, Metabiota will work with DTRA to continue elucidating the requirements of this task. If Metabiota perceives there to be a significant possibility of the proposed solution not meeting cost, schedule, performance, or quality metrics, Metabiota will flag this immediately for DTRA and propose a new solution	**Med-High**
Schedule / Performance						
Limited or non-existent window for the submission of CDRLs to support in international travel for SMEs	The effective execution of this technical direction is contingent on the delivery of SME support to Gabon for a 7-day trip. In order to this fulfill this need, Metabiota Project Management and Coordination staff will be tasked to submit necessary travel related CDRLs for DTRAs approval well ahead of time. Per the contract and this technical direction Metabiota will need to submit a Cable Clearance Request in addition to a Travel Authorization 45 days prior to international and in-country travel respectively. As travel is slated to take place in late January 2016. It will be difficult to submit these documents in time	5	5	(b)(4); (b)(6)	Metabiota will take every effort possible to ensure that all travel related CDRLs are submitted to DTRA CBEP as expediently as possible and ask for an exemption to the 45-day window for CCR submission. However given that there is only a small window allowing Metabiota to accomplish this the risk of cancellation due to CDRL lateness remains high.	(b)(4); (b)(6)
Limited or non-existent window for the submission of CDRLs to support in-country logistics via the CLS mechanism	It is not yet determined if Metabiota will need to engage logistics support services for the execution of the technical direction. However upon this need becoming specified by our in-country partners, Metabiota will be tasked to develop and submit a CLS form at least 45 days before the in-country event. Given that the travel event is slated for late January 2016. Our submission window is small or non-existent.	5	4		Metabiota will coordinate with DTRA stakeholders and our in-country partners immediately upon the approval of this technical direction to determine the extent and need for in-country logistics. Upon determination of this need, Metabiota will develop and submit the CLS form to DTRA CBEP expediently. however, it is anticipated that submitting it within the effective 45-day window will not be possible	**Med-High**
Performance / Quality						
Subject matter expert identification and availability	The subject matter expertise required for in-country performance by this technical direction appears to be of a high and specific caliber. Although several current Metabiota staff meet or exceed these criteria, their individual availability with short notice may not be guaranteed.	2	1	**Low-Medium**	Metabiota will prioritize the requests of this technical direction and ensure that relevant personnel are available to and committed. In the unlikely event that any Metabiota staff SME is not available to function as an in county performer. Metabiota project management staff will insure that an appropriate independent contractor is brought in to support that role	(b)(4); (b)(6)
Performance / Operations						
Subject matter expert relationship with CIRMF	Our potential SME has a long and complicated personal history with the director of CIRMF, which may bring an unacceptable level of corporate and operational risk to the mission if asked to attend meetings at CIRMF in person.	4	4	**Med-High**	Metabiota SME will accompany the DTRA team in country except to meetings at CIRMF. He will provide as much background information as possible on CIRMF to the DTRA team in advance of their meeting, and provide feedback during debriefing.	Med

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$32,154
1003	MATERIALS	$0
1004	ODCs	$1,030
1005	TRAVEL	$8,640
TOTAL		**$41,823.44**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES,.

Labor

Costs for direct labor to support this activity is required for the following personnel:

All phases:

Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by leading proposal development and maintaining oversight of stakeholder and SME coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and any subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

The Metabiota PM will additionally provide management oversight of the SMEs throughout the duration of this project, assuring integration and harmonization with other Metabiota-led, DTRA CBEP-funded efforts in the greater West Africa region. The PM will also ensure that all project personnel (Metabiota and any subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include the acquisition of Defense Base Act insurance, overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism for subcontractors if any are utilized, and any other requ rements which may be applicable to the work.

Metabiota Research and Data Analyst: The Metabiota RDA will act as a Project Coordinator (PC) throughout the planning and execution of project objectives. The Metabiota PC will assist the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will provide operational management of the SMEs by participating in regular communications between the DTRA CBEP stakeholders and the SMEs, acting to ensure all project requirements and deliverables are met, and that the program remains within scope, budget, and timeline. The PC will regularly communicate the project status with the PM. The PC will aid the PM and SMEs in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. The Metabiota PC will assist the SMEs with adhering to DoD contracting requirements, to include developing appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act nsurance, and any other requirements, which may be applicable to the work.

Project Coordination, SME Support, and Closeout phases only:

Subject Matter Expert 3: The SME will participate in regular project coordination communications (teleconferences, emails) to ensure that he understands the context of the project, and the needs and expectations of the DTRA CBEP stakeholders (hours as estimated in box 8) The SME will complete any and all required trainings and documentation prior to and immediately following travel (estimated at 3 hours).

The SME will provide technical and programmatic support as directed by the project leads. This may include engaging in phone and email communications with personnel within government ministries or other organizations in Gabon in order to facilitate introductions and meetings leading up to the scheduled travel period (estimated at 8 hours) The SME will also provide any biological and historical expertise needed while facilitating meetings and discussions in country (estimated at 66 hours – 8 hours per day for 7 days, plus 1 hour each evening to plan for and discuss the next day's meetings, and 1 hour each evening to recap that day's meetings)

The SME will generate reports and recommendations (estimated at 5 hours) and review documents provided by DTRA (estimated at 5 hours).

Deputy Director: The Deputy Director will participate in travel in order to mitigate corporate and operational risk. He will attend meetings and provide technical and programmatic expertise as needed; he has extensive operational experience as a subject matter expert with the CBEP mission in multiple countries. The Deputy Director's labor is captured in CLIN 1001 and thus does not impact the cost of labor for this technical direction.

Materials

No material costs are expected to be incurred.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts

Metabiota does not expect to issue a subcontract in support of this technical direction However, if necessary, independent consulting agreements or subcontracts will be issued to the SMEs and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel of the SME and the AEP Deputy Director to Libreville, Gabon is requested for the purposes of executing the scope of this technical direction. Metabiota assumes that in-country travel arrangements if any, will be handled by DTRA CBEP. No additional travel is projected based on the requirements provided. The travel budget represents the estimated amount required; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV.

$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $0

12a. CURRENT PERIOD OF PERFORMANCE

14 DEC 2015 – 31 MAR 2016

12b TD REV PERIOD OF PERFORMANCE

DD MMM YYYY – DD MMM YYYY

13. CONTRACTOR SIGNATURE AND DATE

(b)(6)

Signatu

Date: 9 December 2015

14 REGION

AFRICOM

15. TECHNICAL POINTS OF CONTACT

(b)(6)

(b)(6)

COM Science Manager.

CBEP A&AS Support.

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPRDVAL

X

(b)(6)

COR / J3CTB Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

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8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	20	

4. TD TITLE	5. TOTAL TD ESTIMATE:
Gabon Initial Engagement SME Support	HOURS. 60 DOLLARS: $ **$50,000**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE).

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide a Subject Matter Expert (SME) support on Gabon health systems and laboratory capabilities in accordance with SOW, Section 4.4, Task 2. This SME will provide technical support to the CBEP Gabon Country Manager for initial engagement activities with Gabonese ministerial officials, provide historical context and technical advice on gap analyses, and recommend CBEP engagement approaches with the Government of Gabon.

It is expected that implementation of this requirement will be approximately 100 hours of work consisting of (a) 1 x 7 day trip with CBEP representatives to Gabon in late Jan 2016, (b) bi-weekly (every other week) coordination meetings (est. 1 hour/each) before the trip, (c) weekly coordination meetings (est. 1 hours/each) for approximately 2 months after the trip, (d) written report conveying personal knowledge and expertise as well as engagement recommendations following the trip, (e) review of country engagement strategy documents (est. 5 hours).

The period of performance for this effort will be from 14 December 2015 to 31 March 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $50,000 is requested by 9 December 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation:

Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. Given the short suspense, it was not possible to have extensive conversations with the technical POCs listed prior to the development of this response. It is anticipated that the plan for TD-020 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Research and Data Analyst (RDA)) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:

In order to effectively ensure that an appropriate subject matter expert is available to provide the requested support, the Metabiota PM and PC will, upon approval of the TD, engage relevant DTRA CBEP stakeholders to clarify the type and extent of support required. Upon approval and receipt of additional information, the Metabiota PM and PC will identify appropriate SMEs.

From the information provided in Box 8, Metabiota's key assumption is that the purpose of this trip is to make introductions and build relationships with Gabonese personnel and institutions, and thus selecting SMEs with ***positive existing relationships is critical***. Metabiota has preliminarily identified a Francophone SME with extensive history working in Gabon; he has positive relationships with most (but not all) institutions and government ministries in Gabon relevant to the DTRA CBEP mission.

While our SME can provide extensive historical knowledge of the institution known as CIRMF (Centre International de Recherches Medicales de Franceville) in support of this technical direction, Metabiota believes that there is an unacceptable level of corporate risk to the company and operational risk to DTRA for him to attend meetings at CIRMF, and as such, if this SME is acceptable to DTRA, Metabiota recommends truncating the in-country support trip for our SME.

Together, the Metabiota team will actively participate in project communications in order to prepare for the in-country SME support and project closeout phases. As these project communications occur, the Metabiota SME will leverage his existing relationships with Gabonese personnel to assist DTRA CBEP stakeholders in developing an agenda and setting up meetings to occur during the week of travel.

The Metabiota PM and PC will work with the SME to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure that any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS.

In-country SME support

Based on our understanding of the requirements, the Metabiota SME will attend meetings with DTRA CBEP personnel. During these meetings, the Metabiota SME will facilitate introductions between DTRA CBEP and Gabonese personnel, and participate in discussions about CBEP objectives, lending technical expertise and advice where needed. Metabiota anticipates holding debriefs and strategy sessions with DTRA CBEP personnel each evening to recap each day's meetings and discuss the next day's meetings.

Project closeout

Upon return from Gabon, the Metabiota SME will participate in regular meetings with DTRA CBEP personnel to fully capture information gained during the in-country trip. The SME will also generate a report detailing that information, along with capturing as much information as is practicable from the SME's personal experiences. The SME, with the Metabiota PM and PC's guidance, will work with the DTRA CBEP personnel to understand

DTRA CBEP goals in Gabon and the region and create a list of suggested engagements (high-level only; Metabiota cannot provide suggestions on detailed work to be done as this may be construed as a conflict of interest). The Metabiota team will also review strategy documents provided by DTRA CBEP and provide feedback. Lastly, upon request, the Metabiota team will generate a final project report summarizing all activities conducted in this effort.

Risk Management
Metabiota has identified potential risks which may be obstacles to accomplishing DTRA CBEP goals for this technical direction. They are listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Cost, Schedule, Performance, Quality						
Short proposal turnaround time	The short turnaround did not allow for extensive discussion with Technical POCs regarding clarification of requirements and background materials. Thus our proposed labor solution may be inadequate, impacting cost. It may also impact schedule, performance, and quality, as we may proceed to identify a SME who is incapable of meeting project requirements in a timely fashion or to the satisfaction of project stakeholders.	5	4	(b)(4); (b)(6)	Upon approval of the TD, Metabiota will work with DTRA to continue elucidating the requirements of this task. If Metabiota perceives there to be a significant possibility of the proposed solution not meeting cost, schedule, performance, or quality metrics, Metabiota will flag this immediately for DTRA and propose a new solution.	(b)(4); (b)(6)
Schedule / Performance						
Limited or non-existent window for the submission of CDRLs to support in international travel for SMEs	The effective execution of this technical direction is contingent on the delivery of SME support to Gabon for a 7-day trip. In order to this fulfill this need, Metabiota Project Management and Coordination staff will be tasked to submit necessary travel related CDRLs for DTRAs approval well ahead of time. Per the contract and this technical direction, Metabiota will need to submit a Cable Clearance Request in addition to a Travel Authorization 45 days prior to international and in-country travel respectively. As travel is slated to take place in late January 2016, it will be difficult to submit these documents in time.	5	5	(b)(4); (b)(6)	Metabiota will take every effort possible to ensure that all travel related CDRLs are submitted to DTRA CBEP as expediently as possible and ask for an exemption to the 45-day window for CDR submission. However, given that there is only a small window allowing Metabiota to accomplish this, the risk of cancellation due to CDRL lateness remains high	
Limited or non-existent window for the submission of CDRLs to support in-country logistics via the CLS mechanism	It is not yet determined if Metabiota will need to engage logistics support services for the execution of the technical direction. However, upon this need becoming specified by our in-country partners, Metabiota will be tasked to develop and submit a CLS form at least 45 days before the in-country event. Given that the travel event is slated for late January 2016, our submission window is small or non-existent.	5	4		Metabiota will coordinate with DTRA stakeholders and our in-country partners immediately upon the approval of this technical direction to determine the extent and need for in-country logistics. Upon determination of this need, Metabiota will develop and submit the CLS form to DTRA CBEP expediently; however, it is anticipated that submitting it within the effective 45-day window will not be possible	
Performance / Quality						
Subject matter expert identification and availability	The subject matter expertise required for in-country performance by this technical direction appears to be of a high and specific caliber. Although several current Metabiota staff meet or exceed these criteria, their individual availability with short notice may not be guaranteed.	2	1	Low-Medium	Metabiota will prioritize the requests of this technical direction and ensure that relevant personnel are available to and committed. In the unlikely event that any Metabiota staff SME is not available to function as an in-county performer, Metabiota project management staff will insure that an appropriate independent contractor is brought in to support that role.	
Performance / Operations						
Subject matter expert relationship with CIRMF	Our potential SME has a long and complicated personal history with the director of CIRMF, which may bring an unacceptable level of corporate and operational risk to the mission if asked to attend meetings at CIRMF in person.	4	4	Med-High	Metabiota SME will accompany the DTRA team in country except to meetings at CIRMF. He will provide as much background information as possible on CIRMF to the DTRA team in advance of their meeting, and provide feedback during debriefing.	Med

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$27,095.86
1003	MATERIALS	$0.00
1004	ODCs	$539.28
1005	TRAVEL	$4,320.00
TOTAL		**$31,955.14**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:

Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by leading proposal development and maintaining oversight of stakeholder and SME coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and any subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

The Metabiota PM will additionally provide management oversight of the SMEs throughout the duration of this project, assuring integration and harmonization with other Metabiota-led, DTRA CBEP-funded efforts in the greater West Africa region. The PM will also ensure that all project personnel (Metabiota and any subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include the acquisition of Defense Base Act insurance, overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism for subcontractors if any are utilized, and any other requirements which may be applicable to the work.

Metabiota Research and Data Analyst: The Metabiota RDA will act as a Project Coordinator (PC) throughout the planning and execution of project objectives. The Metabiota PC will assist the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will provide operational management of the SMEs by participating in regular communications between the DTRA CBEP stakeholders and the SMEs, acting to ensure all project requirements and deliverables are met, and that the program remains within scope, budget, and timeline. The PC will regularly communicate the project status with the PM. The PC will aid the PM and SMEs in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. The Metabiota PC will assist the SMEs with adhering to DoD contracting requirements, to include developing appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements, which may be applicable to the work.

Project Coordination, SME Support, and Closeout phases only:
Subject Matter Expert 3: The SME will participate in regular project coordination communications (teleconferences, emails) to ensure that he understands the context of the project, and the needs and expectations of the DTRA CBEP stakeholders (hours as estimated in box 8). The SME will complete any and all required trainings and documentation prior to and immediately following travel (estimated at 3 hours).

The SME will provide technical and programmatic support as directed by the project leads. This may include engaging in phone and email communications with personnel within government ministries or other organizations in Gabon in order to facilitate introductions and meetings leading up to the scheduled travel period (estimated at 8 hours). The SME will also provide any biological and historical expertise needed while facilitating meetings and discussions in country (estimated at 46 hours – 8 hours per day for 5 days, plus 1 hour each evening to plan for and discuss the next day's meetings, and 1 hour each evening to recap that day's meetings).

The SME will generate reports and recommendations (estimated at 5 hours) and review documents provided by DTRA (estimated at 5 hours).

Materials
No material costs are expected to be incurred.

Other Direct Costs
Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement

Subcontracts
Metabiota does not expect to issue a subcontract in support of this technical direction. However, if necessary, independent consulting agreements or subcontracts will be issued to the SMEs and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel of the SME to Libreville, Gabon is requested for the purposes of executing the scope of this technical direction. Metabiota assumes that in-country travel arrangements if any, will be handled by DTRA CBEP. No additional travel is projected based on the requirements provided. The travel budget represents the estimated amount required; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	27,095.86	12/14/2015	3/31/2016
1003	MATERIALS	$	-	12/14/2015	3/31/2016
1004	ODCs	$	539.28	12/14/2015	3/31/2016
1005	TRAVEL	$	4,320.00	12/14/2015	3/31/2016
	TOTAL	**$**	**31,955.14**	12/14/2015	3/31/2016

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ $31,955.14 11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV: $ $31,955.14	14 DEC 2015 – 31 MAR 2016 12b. TD REV PERIOD OF PERFORMANCE 14 DEC 2015 – 31 MAR 2016	(b)(6) Signature: Date: 10 DECEMBER 2015

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
AFRICOM	(b)(6) Lebanon Country Manager, (b) COM Science Manager, CREP A&AS Support, (b)(6)	12/10/2015 (b)(6) X (b)(6) COR / J3CTB Deputy Chief Scientist Signed by: (b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions. Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	20	

4. TD TITLE	5. TOTAL TD ESTIMATE:
Gabon Initial Engagement SME Support	HOURS. 60 DOLLARS: $ **$50,000**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide a Subject Matter Expert (SME) support on Gabon health systems and laboratory capabilities in accordance with SOW, Section 4.4, Task 2. This SME will provide technical support to the CBEP Gabon Country Manager for initial engagement activities with Gabonese ministerial officials, provide historical context and technical advice on gap analyses, and recommend CBEP engagement approaches with the Government of Gabon.

It is expected that implementation of this requirement will be approximately 100 hours of work consisting of (a) 1 x 7 day trip with CBEP representatives to Gabon in late Jan 2016, (b) bi-weekly (every other week) coordination meetings (est. 1 hour/each) before the trip, (c) weekly coordination meetings (est. 1 hours/each) for approximately 2 months after the trip, (d) written report conveying personal knowledge and expertise as well as engagement recommendations following the trip, (e) review of country engagement strategy documents (est. 5 hours).

The period of performance for this effort will be from 14 December 2015 to 31 March 2016 Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $50,000 is requested by 9 December 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV.	12a. CURRENT PERIOD OF PERFORMANCE	**13. CONTRACTOR SIGNATURE AND DATE**
$ **$0**	14 DEC 2015 – 31 MAR 2016	Signature:
11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV: $ **$0**	12b. TD REV PERIOD OF PERFORMANCE DD MMM YYYY DD MMM YYYY	Date:

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
AFRICOM	(b)(6) Gabon Country Manager, (b)(6) (b)(6) RICOM Science Manager, (b)(6) (b)(6) CBEP A&AS Support, (b)(6)	X (b)(6) COR / J3CTB Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact Details
8. Description of the Technical Directive Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	021	C

4. TD TITLE	5 TOTAL TD ESTIMATE.
Iraq Field Epidemiology Training Program (FETP) Support	HOURS: 0 DOLLARS: $ $0

6. CONTRACING OFFICER REPRESENTATIVE	7 CONTRACTOR POC
NAME: (b)(6)	NAME (b)(6)
PHON(b)(6) MAIL(b)(6)	PHONE EMAIL: (b)(6)

8 DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE).

The purpose of this revision is to increase the TD ceiling to account for current cost overruns and additional labor hours required to satisfy the remaining original agreed upon requirements outlined in TD-021RevB. Required in this TD revision is your proposed budget increase, basis of estimate (BOE) for the increase and the justification for each hour of increase to satisfy the remaining requirements. An update to labor hours and dollars expended to date on CLIN 1002 is also required, to include each labor category. Please note justifications need to be quantifiable to most extent possible. These items are requested NLT COB 25 Oct 2016.

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CJS and the in-country DTRO (as appropriate) by the CBEP POCs below.

No further changes to the previously approved proposal are required at this time

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES)

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN)

CLIN	DESCRIPTION	REV C TOTAL
1002	LABOR	$807,912
1003	MATERIALS	$24,057
1004	ODCs	$4,220
1005	TRAVEL	$2,941
TOTAL		**$839,129**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES

Program Manager
Rev B Hours: 845
Rev C Hours: 938

An additional 93 hours are being required for Program Managers (b)(6) o support the implementation and completion of TD-21. Hours estimated fo(b)(6) nder Rev B totaled 845 and for (b)(6) 80. However, due to unanticipated costs in August, September, and October for the completion of the gap analysis (b)(6) hours increased to 413, creating a variance of 48 hours of additional labor to complete the analysis. The increase in (b)(6) urs are for conducting the initial gap analysis required for presentation at the NBMC on 7-8 September utilizing an older version of the NBERP received from the State Department. Due to the timeframe required to complete the analysi(b)(6) d team utilized the older version of the NBERP to execute the draft analysis, as well as a Google translated version of the new version received by the Iraqi stakeholders. Utilization of the Google translated version of the NBERP resulted in increased efforts due to the challenges faced with the program's translation capabilities and ensuring the accuracy of the document. In addition, once the professionally translated version was received on 30 September, Dr. Lee and team cross walked the documents to ensure accuracy in the overall analysis. The final analysis is on schedule to be delivered to CBEP in November.

Additional hours required fo(b)(6) total 45 hours. The increase in hours is required for unanticipated efforts for program implementation in the last 3 ½ months of the program. The major factor contributing t(b)(6) ncrease in level of effort (LOE) is the management of the subcontractor URC in execution of in-country requirements for procurement, and preparation for the Hands-On- Training (HOT). In addition, US-based procurement requirements to support the HOT, as well as procuring reference materials for the ongoing remote training, required additional labor over what was originally anticipated. Since the materials required for the HOT were purchased in country and the materials required for the trainer demonstrations were procured in the US, it took(b)(6) and team additional labor hours to ensure that (1) the materials were equivalent based on market availability in country, and (2) that what was procured by the URC team was technically sufficient to support the training. Where materials were unavailable, or were not identical to materials secured in the US, the team made adjustments to both delivery of the training, as well as materials purchased. This required additional coordination efforts with URC, US-based vendors, and the trainers to ensure successful execution of the HOT.

Subject Matter Expert (SME) 1
Rev B Hours: 2119
Rev C Hours: 2344

An additional 222 hours are being required for SME 1's to support implementation and completion of the TD-21. The additional hours required are for (b)(6) e hours required support project coordination b (b)(6) execution of the gap analysis by (b)(6) execution of the epidemiology training by (b)(6) and (b)(6)

Under Rev B, hours required for (b)(6) were 218 to support material development and review for the BS&S. However, due to her inclusion in conduction of the gap analysis and participation in the HOT during the August – November timeframe, an additional 111 hours are required for (b)(6) hours increased in the months of August and September in direct support of conducting the gap analysis. Originally, it was not intended for her participation, however, due to her background and unanticipated efforts required to complete the analysis, (b)(6) was brought in by the team to assist in conducting the gap analysis, presenting at the NBMC, and cross walking the analysis once the professional version was received. In addition (b)(6) continued to provide assistance in finalizing the analysis, which includes building out tables and graphs to support findings in the narrative.

Under Rev B, hours required for (b)(6) ere 700 to support overall project coordination. However, due to her efforts in supporting the revision of epidemiology training materials, procurement, and coordination of the HOT (b)(6) hours have increased to 779, requiring an additional 79 hours on the project. (b)(6) additional efforts focused on supporting formatting changes for the epidemiology materials, ensuring completion of comments trackers, and coordinating with the teams for on-time submission and follow up of receipt of approved PAO materials. In addition, efforts required to assist in procurement and coordination of the HOT, as well as completion of all activities supporting this effort were in excess of what was originally anticipated.

Under Rev B, hours required for (b)(6) were anticipated at 405.5 each. However, due to unforeseen efforts required for training material development and adaptation, execution of the gap analysis, and efforts in execution of the remote and HOT trainings an additional 209 hours are required. Efforts for both SMEs increased due to the development of all training materials presented in this course, and the multiple rounds of comments trackers and iterations of the materials to ensure formatting met DTRA standards. At the onset of the project it was not clear as to the requirements for formatting of the developed materials, and as the internal process at DTRA was finalized and communicated to the team, it took additional efforts to complete all materials and ensure PAO approval. In addition, hours increased for both team members in order to support the remote training for Cohort I, due to a family emergency that required (b)(6) E II) to travel to Yemen for personal needs. The SME I and RDA trainers stepped in to conduct training modules on behalf o (b)(6) ng this timeframe. In addition, (b)(6) n supporting the routine updates of loading video recordings and materials to the LMS site, which increased her labor over what was anticipated. Original projections for management of the site did not account for the intensity of management of materials required on the LMS platform. As wel (b)(6) was pulled into the gap analysis in mid-August to provide input from an epidemiology perspective. Originally, we did not anticipate this need, as we believed efforts to conduct the analysis would be required from the BS&S personnel, only. However, this changed once we initiated review and execution of the gap analysis and realized that our team did not include this expertise, which was required for input and completion of the final product.

*Please note in Rev B (b)(6) ere included as SME 1s, however, due to a rate reduction received by URC in October 2016 for these personnel, they have been transitioned to RDAs to provide a cost savings to the Government.

Subject Matter Expert (SME) 2
Rev B Hours: 1449
Rev C Hours: 1434
Additional labor hours are not being requested for SME 2's at this time. Overall, efforts for SME 2's has decreased, which is a direct result of (b)(6) (b)(6) eave during the month of August.

Foreign Local National (FLN) 3
Rev B Hours: 540
Rev C Hours: 604
Under Rev B, hours required for the FLN team were 540 total hours. However, due to unanticipated efforts in the field to support project implementation and procurement of materials and supplies, efforts have increased to 604 total hours, requiring an additional 64 hours of effort provided by (b)(6) Additional hours for (b)(6) re required to support the in-country procurement of supplies. (b)(6) hours in Rev B totaled 80, however, due to difficulties in procuring local materials, an additional 64 hours are required, bringing his total LOE to 144. The duration of time required to identify and secure the necessary training materials for the HOT was greater than the team had anticipated, requiring additional efforts of (b)(6) rt to ensure all materials were procured and transferred to CPHL on time for the training. Additional hours are not required for the remaining FLN trainers supporting this effort.

Research and Data Analyst (RDA)
Rev B Hours: 906
Rev C Hours: 1643
Under Rev B, hours required for the RDA's totaled 906, however due to unforeseen labor requirements, an additional 737 hours are being requested to support RDA efforts performed by (b)(6) (b)(6)

Ms. (b)(6) ours increased from 110 originally intended to provide administrative support to the BS&S project team, to 589 to support concurrent activities on the project resulting in an increase in 479 hours. Once the gap analysis was underway in August, it became clear that the BS&S team did not have sufficient bandwidth to complete the remote BS&S training beginning on 18 September, prepare for the HOT, and conduct the gap analysis concurrently. As (b)(6) prior knowledge and experience working with the LMS Moodle platform, her efforts increased to support the build out and daily maintenance of the BS&S LMS site, participation in the BS&S remote training through the online hosting of the classes, administrative tracking of homework and attendance, as well as the formatting of developed materials to meet the PAO

standards for approval. The efforts of (b)(6) owed the BS&S trainers to focus on the gap analysis, conduct online courses, and develop materials required for the HOT.

(b)(6) rs increased from 361.5 in Rev B to 395 in Rev C, requiring an additional 33.5 hours of effort. This additional effort was required to support the revisions required for the PAO approval of epidemiology training materials due to the multiple iterations of changes required, above what was originally anticipated on the project, as well as remote training coverage for (b)(6) ring her absence.

(b)(6) ours increased from 150 in Rev B to 200 in Rev C, requiring an additional 50 hours of effort to support increased support in the months of August and September to secure the CPHL venue for the HOT, as well as holding routine communications with the participants to ensure training standards were met and maximum CME credits received by the MoH for participation in the training. It was not originally anticipated by the team, that (b)(6) ould be necessary for communications to this level of effort with participants prior to the implementation of the BS&S training, or that it would require an increased level of effort to secure the site for the training in October at the CPHL.

The additional hours required for efforts provided by (b)(6) URC are required to support in-country and US-based operations on the project that were not anticipated until actual implementation of their activities began in August. Originally (b)(6) had an estimated 30 hours on the project and (b)(6) n estimated 20. However, it became clear following onboarding of URC as a subcontractor in August that additional hours were required for overall in-country coordination to include procurement efforts, facilitation of communications with the trainers, and preparation for the HOT, as well as intensive oversight b (b)(6) as URC's manager for this effort. In order to complete all activities, (b)(6) quires a total of 136 hours and (b)(6) a total o additional efforts directly support the procurement of all in-country materials with (b)(6) which required efforts outside of what was originally planned due to the changing in-country conditions and market availability of sup addition (b)(6) rked with US-based trainers to cross walk materials and ensure they lined up, to the best of his abilities, for implementation of the HOT according to what was available in the local market and acceptable for the technical requirements of course implementation. The difficulties faced in securing the necessary materials exceeded the team's expectations when it was originally confirmed that all materials could be procured in country back in July. As well (b)(6) attend all 5 days of the HOT to ensure coordination with CLS, trainers, and the project team for the duration of the event. Originally, his attendance was not anticipated for all 5 days, due to in-country support provided by CLS, and well as the local trainers, however, it was determined necessary by the project team to provide support to the trainers during the event to ensure all materials were available for the practicum modules, as well as to communicate directly with the project team, should there be any issues that arise during the even (b)(6) crease in hours are required to support routine project coordination necessitating additional efforts due to the challenges faced on the ground with procurement, and additional communications with her team to secure materials and execute the remote courses being held from August – October, and the HOT course scheduled in October – November.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 807,911.75		
1003	MATERIALS	$ 24,057.16		
1004	ODCs	$ 4,219.72		
1005	TRAVEL	$ 2,940.84		
	TOTAL	**$ 839,129.47**		

COMMENTS (OPTIONAL):

Increased TD ceiling by $91,966.12 and adjusted funding on the CLINs detailed in Block 10.

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ **$91,966.12**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$839,129.47**

12a. CURRENT PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

12b. TD REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

(b)(6)

Signature:

Date: **31 October 2016**

14. REGION

CENTCOM/ Iraq

15. TECHNICAL POINTS OF CONTACT

(b)(6)

(b)(6) Country Manager

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

(b)(6)

X

(b)(6)

COR/ JSCTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	24	

4. TD TITLE	5. TOTAL TD ESTIMATE.
Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East and South Asia.	HOURS 160 DOLLARS: $ $60,000

6. CONTRACTING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to develop a Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East, South Asia and CBEP collaborations in the CENTOM Region in accordance with SOW section 4.3, Task 3.

Metabiota shall develop a 2-5-minute film narrative of the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, which was held at the Royal Scientific Society (RSS) on March 7-8, 2016 in Amman, Jordan. The visual narrative (2-5 minutes) objectives are to document the Jordan conference and describe other science initiatives and the outcomes of CBEP's engagements in the Middle East and South Asia. Metabiota shall develop the specific script in coordination with CBEP CENTCOM regional managers. The footage and interviews that Metabiota has from the conference can be utilized for the visual narrative. The visual narrative should be completed by June 30 2016. Total costs for the narrative shall not exceed $60,000.

Deliverables:

- A short film narrative of 2-5 minutes on 3 DVDs. Final film must go through Public Affairs Office (PAO) approval at DTRA.

The period of performance for this effort will be from May 1 to June 30 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $60,000.00 is requested by 19 April. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Phase 1: Proposal Development & Initiation (Task 1)

Metabiota developed a project plan and implementation strategy that aligns with the narrative from Box 8. It is anticipated that the plan for TD-24 is considered a living document, and it is expected that revisions to the plan may be necessary following stakeholder meetings. During proposal development, Metabiota will use Program Manager (PM) and Project Coordinator (PC, billed as a Subject Matter Expert 1) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Metabiota assumes the following:

1. The PoP assigned to this project will allow enough time for PAO approval of the final video. However, if PAO approval extends beyond the project timeframe, Metabiota will work with AEP regional leadership and the COR to adjust the PoP or allow for final approval of the video outside of the project timeframe, as appropriate and within contractual compliance;
2. Production services required for this project will be complete within 3 weeks allowing enough time for PAO approval of the final video. Should services required extend past this timeframe, Metabiota will work with the CBEP CENTCOM regional leads (and COR, if necessary) to adjust the schedule accordingly;
3. Box 8 of TD-24 states that this project will be completed in accordance with section 4.3, Task 3, which refers to Qualified Trainers (QTs). Based on the requirements, Metabiota has replaced Qualified Trainers with Task 4- Subject Matter Experts. Metabiota assumes this will be acceptable in the execution of the project and engagement of SMEs for this effort.

Project Coordination (Task 1)

The Project team will be led by an experienced Program Manager (PM (b)(6) and supported by a highly effective Project Coordinator (PC), (b)(6) PA, to cover Task 1 – Project Coordination. The PM and PC were selected for this project, because they implemented TD-07 the Middle East South Asia Epigenetics and Genomics of Infectious Disease Conference and have the historical knowledge to effectively and efficiently manage the requirements identified for TD-24. In addition, Metabiota will engag (b)(6) PhD. from Gryphon Scientific LLC to assist in narrative development as a SME under Task 4. Dr. Berger was the PI and senior technical implementer on TD-07, working closely with (b)(6) (b)(6)

Note: The Metabiota PM confirms subcontractor knowledge of the contractual requirements prior to TD approval

Phase 2: Preparation (Task 1)

Upon TD approval, the PM will establish routine communications with project team members and CBEP to initiate project implementation. The PM will hold a kick-off meeting within 5 days of approval, with participation from the AEP PMO, project team members and key CBEP stakeholders to review project requirements and ensure a mutual understanding of project goals and objectives is realized. The PM, with assistance from the PC, will identify and engage the videography firm required to execute production of the video. The PM will lead coordination and integration of the project team with CBEP stakeholders to develop the narrative and complete the film.

The project team will ensure that all necessary documentation required prior to initiating tasks is completed correctly and submitted on time, including CTR CLS Form (CDRL A016) and the Monthly Reports (CDRL A001). The project team will work closely with CBEP regional leads, A&AS support staff, and CLS to ensure that all logistics requirements are coordinated and implemented according to the project schedule and contractual

requirements. The Metabiota Travel Coordinator will coordinate with the project team to assist in the request of travel requirements supporting this effort and will ensure that travel arrangements are secured, immediately following approval by the COR, and in line with the project schedule and execution requirements.

Sub-Phase 2.1: Film Narrative Development and Adaptation (Tasks 1,4)

Metabiota will select and engage a videography firm to produce the film, following sourcing of an appropriate vendor for this engagement. The project team will engage the CBEP regional leads to ensure the technical requirements are clearly determined and will select a service provider at best cost to the government, meeting the requirements identified. Upon engagement of the videography firm, Metabiota will transfer the existing, unedited video footage and interviews collected during the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, held at the Royal Scientific Society (RSS) from 7-8 March 2016 to the firm in order to produce the film. The unedited video footage, interviews, and photographs captured during this event will provide the raw material to effectively and relevantly document the Jordan conference and describe other science initiatives and the outcomes of CBEP's engagements in the Middle East and South Asia. The Metabiota team will work directly with CBEP regional leads and the videography firm to determine the narrative and produce the film.

Sub-Phase 2.2: Coordination for Material Shipment (Task 1)

Shipment of materials and final edited film, if deemed necessary, will be handled via CLS. The project team will deliver the final edited and PAO approved film utilizing the appropriate CLS forms (CDRL A0016 and associated forms) to the CBEP team for appropriate routing, adhering to contract timelines and deliverable schedule. The Metabiota team will work closely with CBEP, A&AS, and CLS staff members to coordinate and execute any logistical requirements, as needed

Phase 3: Implementation (Tasks 1,4)

The Metabiota Project Team will develop and create a 2-5 minute film narrative of the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, held at the Royal Scientific Society (RSS) on March 7-8, 2016 in Amman, Jordan. The film will be produced in the English language and may include visual frames of speakers on stage, panning of audience, and snapshots of the discussion panels, poster session, and participants asking questions and engaging with speakers. The film may also include short interviews with conference organizers, Scientific Advisory Board members, speakers, presenters, and attendees concerning the importance, relevancy, and benefits of the conference, among other topics. The film will be produced utilizing the technical expertise of the film editors, Metabiota team, and CBEP regional leads to showcase the conference and highlight the scientific initiatives and engagements stemming from this event and CBEP efforts in the region. Suitable background music will be included, as well as sub-titles, if deemed necessary. Metabiota will ensure that the film is adjusted/edited according to guidelines received from CBEP, and other key stakeholders. CLS will be engaged to provide logistical support (CDRL A0016), should it be required for this effort. In addition, Metabiota will ensure PAO approval of the film, and will coordinate with the technical team to address any necessary changes prior to completion and final delivery of the product.

To support implementation efforts, the Metabiota PM will travel to Washington DC for meetings with CBEP regional leads and the project team to develop the narrative and review the video footage. The PM will participate in working sessions, brainstorming, and technical development of the film narrative during scheduled in person meetings to ensure execution of the narrative and completion of the project. In addition, the PM will meet with the videography firm to review performance and completion of tasks associated with this project.

Phase 4: Project Closeout (Task 1)

The project team will close out all activities associated with this project, to include final reporting, invoicing, and submission of all relevant CDRLs according to the outlined schedule. In addition, the project team will contribute to lessons learned conversations with CBEP detailing enhancements that could be made should this type of project be repeated, as necessary and requested by CBEP regional leads. Finally, unedited and edited film, and other relevant materials will be provided to CBEP.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$36,810.04
1003	MATERIALS	$10,695.43
1004	ODCs	$0
1005	TRAVEL	$2,372.50
TOTAL		**$49,877.97**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Labor

Costs for direct labor to support this activity is required for the following personnel:

Metabiota Program Manager (PM). The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of CBEP goals in direct support of this activity and the CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the SME 1 to ensure day-to-day activities for the project are completed on time, and to the quality required by CBEP. The PM will participate in routine conference calls and other forms of communication with CBEP regional leads and SMEs to ensure project execution. The PM will oversee the subcontractors on this effort, to include the services provided by the videography company in execution of the film. The PM will ensure all contract CDRLs are met and delivered according to the project timeline, and contract requirements.
LOE: 72 hours

Metabiota Project Coordinator: A SME 1 will act as a Project Coordinator (PC) throughout the planning, execution and close out of project objectives and activities. The PC will support the planning and execution of CBEP objectives towards the completion of project goals by participating in proposal development, stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will participate in routine project communications, to include leading regular coordination calls with the project team, CBEP, the videography company, and other key stakeholders.
LOE: 52 hours

SME 3: [(b)(6)] from Gryphon Scientific will be engaged to support technical development of the film narrative for this project. Having coordinated the MESA Epigenetics and Genomics of Infectious Diseases Conference with the Metabiota team, [(b)(6)] critical in ensuring the conference message is received and communicated through the film. [(b)(6)] will work directly with Metabiota and CBEP to develop the narrative, review the footage, and provide subject matter expertise to the team and the production services in development and execution of the film. Should edits or revisions be required following CBEP and PAO guidelines, [(b)(6)] will participate in editing and refining the narrative to be delivered in the

final product (b)(6) will be responsible for all monthly reporting and deliverables assigned to the Gryphon subcontract by Metabiota in execution of this project.
LOE: 80 hours

Reachback programmatic support to include finance, accounting, and contracts, will be provided as part of CLIN 1001 (FFP) and will not be separately invoiced.

Materials
Training Materials: Two (2) external hard drives will be procured to store the photos, raw video footage, and the final edited video.

Production Services: Metabiota will engage a videography firm to produce the short video for this effort. This will include identification of sound bites, completion of film transcripts, editing, and production of the video.

Metabiota will conduct market research and ensure the best price is secured, maintaining quality and technical requirements for all procurement of goods. Metabiota will coordinate directly with CLS for all shipping requirements, and will ensure cost management for all procured supplies, as necessary to complete the scope of this effort.

Subcontracts
The subcontract with Gryphon Scientific will be modified to include labor hours and materials required for implementation of this project. Costs are captured under the labor and materials budgets.

Travel
Travel costs will be cost reimbursable and provide best cost to the government following JTR regulations. Travel is requested for the PM to meet with the project team, Gryphon SME, CBEP, the videography company, and other key stakeholders to support the execution of Phase 3, and ensure development of the film narrative and completion of the project. The PM will travel to Washington DC to take part in in person meetings, brainstorming activities, narrative development and review of film footage and sound bites developed by the videography company supporting this project.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 36,810.04		
1003	MATERIALS	$ 10,695.43		
1004	ODCs	$ -		
1005	TRAVEL	$ 2,372.50		
	TOTAL	**$ 49,877.97**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$49,877.97**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$49,877.97**

12a. CURRENT PERIOD OF PERFORMANCE
01-May-2016 – 15-May-2016

12b. TD REV PERIOD OF PERFORMANCE
01-May-2016 – 15-May-2016

13. CONTRACTOR SIGNATURE AND DATE
(b)(6)
Signatur
Dat

14. REGION
CENTCOM/ Regional

15. TECHNICAL POINTS OF CONTACT
(b)(6) CENTCOM Science Lead
(b)(6)
(b)(6) CENTCOM Regional Lead
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
(b)(6)
X
(b)(6)
COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
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    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

July 22, 2015

Metabiota
Dr. (b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for grant development assistance to the Nipah project development grant (PDG)

Dear (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide technical assistance to scientists from the Research Institute of Tropical Medicine (RITM) in the Philippines in developing and preparing documentation necessary to submit a research proposal to the BAA Thrust Area 6 for a study on paramyxoviruses, in accordance with SOW Tasks 5 & 6. Metabiota will act as a technical resource, assisting RITM in preparation of required information, including completion of the Protocol Risk Assessment Tool, process of collecting IACUC and/or IRB protocols, and completion of necessary registration for submitting necessary documentation for successful proposals to grants.gov, to include a research plan, technical approach and budget.

This requirement is derived from discussions held during the bat-borne surveillance training event conducted in Singapore in May 2014. Metabiota will work with RITM to develop documentation described above for preliminary surveillance studies of bats in province Sultan Kudarat. A proposal and estimated budget for implementing these requirements is requested by 5 August 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with the DTRA CBEP Points of Contact listed below.

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

CBEP POCs: CBEP Philippines Country Manager (b)(6)
(b)(6) CBEP Regional Science Lead, (b)(6)

Attachments List: Protocol Risk Assessment Tool (PRAT)

Sincerely,

(b)(6)

Contracting Officer
J4COC

Cc (b)(6)
(b)(6)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

May 26, 2015

Metabiota
Dr. (b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for the Implementation of Personal Protective Equipment (PPE) Donning and Doffing Biosafety Training in Cameroon.

Dear (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide Personal Protective Equipment (PPE) Donning and Doffing Biosafety Training and Viral Hemorrhagic Fever (VHF) Clinical Recognition Training in Yaoundé, Cameroon in accordance with SOW section 4.3, Task 3 not to exceed $100,000. We anticipate representatives from the Cameroon Ministry of Defense in the following fields of expertise will attend the training: Clinical practitioners (4), Emergency doctors (4), Intensive care (4), Laboratory (6), Surgery (2), and Stretcher-Bearers (6). It is expected that these individuals will go back and train others in their respective fields. Metabiota shall utilize existing DTRA Donning and Doffing of PPE (Attachment A) and VHF Clinical Recognition training presentations (Attachment B). Metabiota shall modify the training materials including the Partner Country Titles, Country Specific Titles, and remove any unneeded materials. If Metabiota provides additional language or materials to DTRA's preapproved Donning and Doffing of PPE or VHF Clinical Recognition training presentations, the modified materials are subject to a 30 day review period by DTRA's Training Team. DTRA is providing PPE to various Military Hospitals in Cameroon. The shipment for the Military Hospital in Yaoundé will contain the training materials for the course (Attachment C). These materials will be available for training with the exception of the Tyvek 198 suit, the chlorine granduals, and anti-fog spray which are on backorder. The Tyvek 122 suit will be available for training. Metabiota shall propose a date for this training that is no earlier than July 2015. A proposal and estimate budget for implementing this requirement is requested NLT 08 June 15.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with DTRA CBEP Points of Contact noted below.

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

CBEP POCs: Cameroon country manager, (b)(6)

(b)(6)

Attachments List:

Attachment A: Donning and Doffing of Personal Protective Equipment Training Presentation
Attachment B: VHF Clinical Recognition Training
Attachment C: PPE Provision to Cameroon Ministry of Defense

Sincerely,

5/26/2015

(b)(6)

Cc: (b)(6)

(b)(6)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

June 3, 2015

Metabiota
(b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for the Implementation of Sample Collection and Diagnostics Training on Middle East Respiratory Syndrome (MERS-CoV) in Camels and Bats in Kazakhstan.

Dea (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide Sample Collection and Diagnostics Training on Middle East Respiratory Syndrome (MERS-CoV) in Camels and Bats in Kazakhstan in accordance with SOW Section 4.3, Task 3. Metabiota shall perform two training sessions. The first, to be held in late-June 2015, will focus on safe sample collection to include blood, nasal and rectal swabs for both camels and bats. The second, to be held in September 2015, will train laboratory diagnostics for MERS-CoV alongside a panel of related Coronaviruses. Metabiota shall adapt training materials presented during the recent bat-borne surveillance training that occurred in Singapore in May 2014. Additional deliverables would be a curriculum for future trainings and a research proposal suitable for the BAA developed by the Kazakh partners. A proposal and estimated budget not to exceed $445,000 for implementing this requirement is requested NLT 04 June 15. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with the DTRA CBEP Points of Contacts listed below.

CBEP POCs: Kazakhstan country manager, (b)(6)
(b)(6) CENTCOM Regional Science Manage (b)(6)

Attachment List: None

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

Sincerely,

6/3/2015

(b)(6)

COR/JSCTB Deputy Chief Scientist

Signed by: (b)(6)

Cc:
(b)(6)

(b)(6)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

May 26, 2015

Metabiota
(b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for the Study of the Risk of Bat-borne Virus Transmission from the Annual Bat Cull in Nagaland, India.

Dea(b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to administer a study of the Risk of Bat-borne Virus Transmission from the Annual Bat Cull in Nagaland in accordance with SOW Section 4.3, Task 3. This study will determine the virus community of three species of bats in a cave in Nagaland, India and if there is a risk of human infection. This particular site is very important because there is an annual bat harvest in October where numerous individuals from surrounding villages visit. This study will sample this cave for the presence of known select agents that are naturally harbored by bats and that have caused mortality in humans. Metabiota shall visit this site three times to collect bat excreta, urine, oral swabs, anal swabs, blood, sera, and tissues (kidney, spleen, lung, intestine) from harvested bats. The first visit will be 4-6 weeks before the bat harvest to ascertain the base line level of prevalence, the second trip will be during the harvest, and the third trip will be 4-6 weeks after the harvest. A proposal and estimated budget not to exceed $150,000 for implementing this requirement is requested by 10 June 2015.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with DTRA CBEP Points of Contacts listed below.

CBEP POCs: India Country Manager (b)(6)
(b)(6)

Attachment List: None

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

Sincerely,

5/27/2015

(b)(6)

X (b)(6)

COR/J3C1B Deputy Chief Scientist

Signed by: (b)(6)

Cc: (b)(6)

(b)(6)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

May 26, 2015

Metabiota
(b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for the Implementation of an Epigenetics and Genomics of Infectious Diseases Workshop in the Middle East South Asia Region.

Dear (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to administer a two-day workshop in the Fall of 2015 on Epigenetics and Genomics of Infectious Diseases in the Middle East South Asia Region in accordance with SOW Section 4.3, Task 5. The workshop will include plenary talks, topic-focused sessions, poster sessions, and training sessions. The plenary talks will highlight recent advances in epigenetics, genetics, and the technologies and skills needed to study epigenetics. The topic-focused sessions will provide opportunities for participants to learn about specific areas of research, such as epigenetic regulation of host immune system genes by bacterial toxins. The poster sessions will allow scientists to identify prospective partners for research cooperation. Finally, the training sessions will describe processes of initiating and maintaining international scientific collaboration, grant writing, and risk analysis. A proposal and estimated budget not to exceed $500,000 for implementing this requirement is requested by 02 June 15.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with DTRA CBEP Points of Contacts listed below.

CBEP POCs: CENTCOM Regional Lead, (b)(6)
(b)(6) r. CENTCOM Regional Science Manager (b)(6)

Attachment List: None

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

Sincerely,

5/27/2015

(b)(6)

X

(b)(6)

COR/J3CTB Deputy Chief Scientist

Signed by: (b)(6)

Cc: (b)(6)

(b)(6)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

August 24, 2015

Metabiota
(b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for the Implementation of an Epigenetics and Genomics of Infectious Diseases Workshop in the Middle East South Asia Region.

Dear (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to administer a two-day workshop in the Spring of 2016 on Epigenetics and Genomics of Infectious Diseases in the Middle East South Asia Region in accordance with SOW Section 4.3, Task 5. The workshop will include plenary talks, topic-focused sessions, poster sessions, and training sessions. The plenary talks will highlight recent advances in epigenetics, genetics, and the technologies and skills needed to study epigenetics. The topic-focused sessions will provide opportunities for participants to learn about specific areas of research, such as epigenetic regulation of host immune system genes by bacterial toxins. The poster sessions will allow scientists to identify prospective partners for research cooperation. Finally, the training sessions will describe processes of initiating and maintaining international scientific collaboration, grant writing, and risk analysis. A proposal and estimated budget not to exceed $488,040 for implementing this requirement is requested by 07 August 15.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with DTRA CBEP Points of Contacts listed below.

CBEP POCs: CENTCOM Regional Lead (b)(6)
(b)(6)
CENTCOM Regional Science Manager (b)(6)

Attachment List: None

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

Sincerely,

(b)(6)

X

(b)(6)
CCMD/JSCTB Deputy Chief Scientist

Cc: (b)(6)

(b)(6)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

May 26, 2015

Metabiota
(b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for the Implementation of Distance Learning on the Basics of Passive Surveillance for Animal Diseases in Iraq, with a Special Emphasis on Recognition of High Consequence Pathogens.

Dea (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to administer an eighteen-month distance learning course covering the Basics of Passive Surveillance for Animal Diseases in Iraq, with a Special Emphasis on Recognition of High Consequence Pathogens in accordance with SOW Section 4.3, Task 3. The course will build disease diagnosis expertise among a core group of veterinarians, from the field, from public health, and from the laboratory, using a combination of in-person trainings and weekly web-based modules. The program will entail didactic, interactive, and case-based materials to work through the basic concepts of disease pathogenesis, the development of lessons, the significance of lessons in terms of disease, and how these lessons relate to the clinical disease in an animal. Both endemic and high consequence pathogens will be covered to help participants distinguish key aspects that differentiate them, and to help participants appreciate the most appropriate samples to ensure accurate diagnosis. A proposal and estimated budget not to exceed $400,000 for implementing this requirement is requested by June 10, 2015.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with DTRA CBEP Points of Contacts listed below.

CBEP POCs: Iraq Country Manage (b)(6)
(b)(6) anage (b)(6)

Attachment List: None

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

Sincerely,

5/27/2015

X (b)(6)

(b)(6)

COR/J3CTB Deputy Chief Scientist

Signed by: (b)(6)

Cc: (b)(6)

(b)(6)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

June 3, 2015

Metabiota
(b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for Nipah Research Activity Project (RAP)

Dea (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide a research collaborator or collaborators to assist scientists from the Research Institute of Tropical Medicine (RITM) in the Philippines in executing a preliminary study on paramyxoviruses in accordance with SOW section 4.3, Tasks 5 & 6.

This requirement is derived from discussions held during the bat-borne surveillance training event conducted in Singapore in May 2014. Specifically, henipaviruses and potentially related strains in Province Sultan Kudarat are to be the focus of the study. Research collaborators will, in conjunction with scientists at RITM, develop a detailed research plan (including budget) for preliminary surveillance studies of bats in province Sultan Kudarat. The research plan and budget must be submitted for review by DTRA CBEP prior to the initiation of any experimental work. The technical proposal should include comprehensive descriptions of the procedures planned, including field, laboratory, and data analytics, as well as a discussion of biosafety and biosecurity risks and mitigations. Additionally, the Protocol Risk Assessment Tool should be completed and submitted simultaneously. The project should address the following objectives:

1. Identify the reservoir and putative host range for Nipah or related viruses in the Philippines
2. Examine the seroprevalence of Nipah or related viruses in bats, peridomestic animals and humans in the Philippines
3. Understand the risk factors for cross species transmission, including which animals may be amplifying reservoirs

The project should also adhere to CBEP engagement parameters including the but not limited to the requirement for MOUs and/or MTAs with partner country institutions/ministries, and the desire to enhance partner country capabilities in a sustainable manner.

Research collaborators should be accomplished scientists with significant experience in safe and ethical capture of bats for the molecular biosurveillance of bat-borne parasites to include Nipah and Hendra. Research collaborators should have access to and use validated methods and

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

protocols for PCR testing of samples suspected to contain henipaviruses. Research collaborators should have access to and relationships with well-regarded facilities known to have safely and successfully conducted research on Nipah and Hendra and that are capable of safely and securely storing strains of those and related viruses.

The research work proposed should not exceed 12 months and $200,000. A proposal and estimated budget for implementing these requirements is requested by June 19, 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with the DTRA CBEP Points of Contact listed below.

CBEP POCs: CBEP Philippines Country Manager, (b)(6)
(b)(6) BEP Regional Science Lead, (b)(6)

Attachments List: Protocol Risk Assessment Tool (PRAT)

Sincerely,

6/3/2015

X (b)(6)
(b)(6)
COR/J3CTB Deputy Chief Scientist
Signed by: (b)(6)

Cc: (b)(6)
(b)(6)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

8 June, 2015

Metabiota
(b)(6)
Deputy Program Manager
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for the PACOM Regional Landscape Analysis

Dear (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to conduct a risk-based landscape analysis and engagement strategy framework in PACOM in accordance with SOW section 4.3, Task 4.

The objectives of the analysis are to 1) Characterize the region based on the disease landscape, organic regional capabilities, and external factors that impact CBEP objectives, 2) Identify needs and areas of overlap with other stakeholders, and 3) Inform overarching, strategic guidance and goals for CBEP development of individual country engagement strategies. The Not-To-Exceed (NTE) amount for this effort is $450,000.00. A proposal and estimated budget for implementing this requirement is requested by 19 June, 2015.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with the DTRA/CBEP Point of Contact listed below.

CBEP POC (b)(6)

Attachments List: None

Sincerely,

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

6/8/2015

(b)(6)

X

(b)(6)

COR/J3CTB Deputy Chief Scientist

Signed by: (b)(6)

Cc:

(b)(6)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

June 8, 2015

Metabiota
(b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for continued implementation of Clinician Training in Uganda

Dear (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to continue (initiated in the Year 1 of the AEP contract) implementation of clinician training for medical practitioners in Uganda at the sub-national level of healthcare system in accordance with SOW section 4.3, Task 3. Metabiota is to continue providing support of scheduled training events as follows:

- 08-12 June Arua, Uganda- Arua Regional Referral Hospital
- 6-10 July, Kabarole, Rwenzori, Uganda-Fort-Portal Regional Referral Hospital
- 23-31 July, Kabale, Uganda-Kabale Regional Referral Hospital
- 06-14 August, Mbarra, Uganda-Mbarra Regional Referral Hospital

The contractor shall be responsible for coordination of activities with CBEP and the Inter-Agency Health Team at the U.S. Embassy, Kampala prior to implementation. A proposal, training schedule and detailed budget, not to exceed $750K, for implementing this requirement is requested by 10 June, 2015.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with the DTRA CBEP Points of Contact listed below.

CBEP POCs: Uganda Country Manager (b)(6)
(b)(6)

Attachments List: None

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

Sincerely,

6/8/2015

(b)(6)

X

(b)(6)

COR/J3CTB Deputy Chief Scientist

Signed by: NB (b)(6)

Cc: (b)(6)

(b)(6)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

June 13, 2015

Metabiota
(b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for continued implementation of Biosafety and Biosecurity Training in South Africa

Dear (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to continue biosafety and biosecurity training implementation in South Africa in accordance with SOW section 4.3, Task 3. Metabiota was previously directed under modification P0004 to deliver tailored support to improve biological safety in the National Health Laboratory Services (NHLS) network of laboratories and mitigate risk of accidental or intentional release of Emerging Infectious Diseases (EID) causative agents. Metabiota shall continue to finalize the videography component of the BS&S training video materials, and expanding the BS&S capability of the in-country online health information system, Occupational Health And Safety Information System (OHASIS). Metabiota shall develop a fit testing respiratory protection training program to be disseminated via Safety, Health, and Education (SHE) officers. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

A proposal and estimated budget not to exceed (NTE) $49,305 for implementing this requirement is requested by 1 July, 2015.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with the DTRA CBEP Points of Contact listed below.

CBEP POCs:
South Africa Country Manager (b)(6)
AFRICOM Regional Science Manager (b)(6)
(b)(6)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

Attachments List: None

Sincerely,

6/13/2015

X (b)(6)

(b)(6)

COR/JSCTP Deputy Chief Scientist

Signed by: (b)(6)

Cc: (b)(6)

(b)(6)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

June 13, 2015

Metabiota
(b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for One Health Epidemiology training in the Republic of South Africa.

Dear (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to tailor One Health Epidemiology training in the Republic of South Africa in accordance with SOW section 4.3, Task 3. Metabiota, in coordination with Center for Disease Control (CDC)-South Africa (SA) and United States Department of Agriculture (USDA-SA), shall proceed with all coordination necessary to gain host country approval on the One Health Epidemiology training. Metabiota shall communicate as needed with CBEP, CDC-SA, USDA-SA, the Department of Agriculture, Forestry, and Fisheries (DAFF), National Department of Health (NDOH), the National Institute for Communicable Diseases (NICD), and any additional stakeholders deemed necessary by CBEP, CDC-SA, or USDA-SA. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

A proposal and estimated budget not to exceed (NTE) $54,922 for implementing this requirement is requested by 1 July, 2015.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with the DTRA CBEP Points of Contact listed below.

CBEP POCs:
South Africa Country Manager, (b)(6)
AFRICOM Regional Science Manager, (b)(6)
(b)(6)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

Attachments List: None

Sincerely,

6/13/2015

X (b)(6)

(b)(6)

Deputy Chief Scientist

Signed by: (b)(6)

Cc: (b)(6)

(b)(6)

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	001	B

4. TD TITLE
PPE Donning and Doffing Biosafety Training and Viral Hemorrhagic Fever Clinical Recognition in Cameroon

5. TOTAL TD ESTIMATE:
HOURS. _____ DOLLARS: $ **$125,975**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE: (b)(6) EMA (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-001 from 30 Apr 2016 to 15 November 2016 at no additional cost. This PoP extension is to continue providing Personal Protective Equipment (PPE) Donning and Doffing Biosafety Training and Viral Hemorrhagic Fever (VHF) Clinical Recognition Training in Yaoundé, Cameroon. Metabota should coordinate directly with the Technical POCs identified below No changes to the previously approved proposal are required at this time

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV.
$ **$125,975**

12a. CURRENT PERIOD OF PERFORMANCE
16-MAY-2015 – 30 APR 2016

12b. TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE
(b)(6)
Sign
Date: **13 May 2016**

14. REGION
AFRICOM/Cameroon

15. TECHNICAL POINTS OF CONTACT
Cameroon Country Manager:
(b)(6)
AFRICOM Science Manager
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X
(b)(6)
COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	001	C

4. TD TITLE
PPE Donning and Doffing Biosafety Training and Viral Hemorrhagic Fever Clinical Recognition in Cameroon

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$7,562.33**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) IL (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision adjusts funding on the following TD-001 CLINs:
(1) From CLIN 1004, move $1,687.41 to CLIN 1002 (internal TD CLIN realignment)
From TD-002 (KZ MERS) CLIN 1003, move $2,937 89 to CLIN 1002
(2) From TD-002 (KZ MERS) CLIN 1003, move $4,624.44 to CLIN 1005

The total funding moved from TD-002. CLIN 1003 to TD-001 CLIN 1002 & CLIN 1005: $7,562.33
Total funding added to CLIN 1002: $9,249.74

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES.:

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ **$7,562.33**	**15-MAY-2016 – 15-NOV-2016**	Signature: _____
11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:	12b. TD REV PERIOD OF PERFORMANCE	Date: _____
$ **$133,537.37**	**15-MAY-2016 – 15-NOV-2016**	

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
AFRICOM/Cameroon	Cameroon Country Manager: (b)(6) AFRICOM Science Manager (b)(6)	X (b)(6) COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing pnrposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclnsively
    b. Funds Authorized inclusive of all Revisions, Cnmmulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	002	C

4. TD TITLE
Implementation of Sample Collection and Diagnostics Training on Middle East Respiratory Syndrome (MERS-CoV) in Camels and Bats in Kazakhstan

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ $0

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) MAIL (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE MAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision adjusts funding on the following CLINs:
(1) From CLIN 1005, move $61,876.18 to CLIN 1002
From CLIN 1003, move $10,617.04 to CLIN 1002
(2) From CLIN 1003, move $2,165.12 to CLIN 1004

Total amount moved: $74,658.34 to CLINs 1002 and 1004.

The period of performance (PoP) for this TD has ended. This revision is part of TD closeout and tracking.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):
This finalizes TD-002 documentation.

TD is closed and has an underrun: $14,121.63 on CLIN 1003. Remaining funds remitted back to the government and realigned onto TD-001 (Cameroon PPE VHF Training) CLIN 1002 - $2,937.89 and CLIN 1005 - $4,624.44 for a total of $7,562.33.

Also, realign $874.07 onto TD-021 (Iraq FETP) CLIN 1004.

TD underrun post TD-001 & TD-021 CLINs realignment: $7,433.37

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ $376,933.87

12a. CURRENT PERIOD OF PERFORMANCE
COMPLETED

12b. TD REV PERIOD OF PERFORMANCE
CLOSEOUT

13. CONTRACTOR SIGNATURE AND DATE

Signature: _____

Date: _____

14. REGION
EUCOM

15. TECHNICAL POINTS OF CONTACT

Kazakhstan Country Manager (b)(6)
(b)(6)

Kazakhstan Deputy Country Manager
(b)(6)

CENTCOM Regional Science Manage
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)
COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing pnrposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclnsively
    b. Funds Authorized inclusive of all Revisions, Cnmmulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	004	B

4. TD TITLE
Implementation of an Epigenetics and Genomics of Infectious Diseases Workshop in the Middle East South Asia Region.

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHON (b)(6) EMAIL (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE EMA (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision adjusts funding on the following CLINs:
(1) From CLIN 1005, move $25,984.03 to CLIN 1002
(2) From CLIN 1004, move $2,807.06 to CLIN 1002

Total amount moved: $28,791.09 to CLIN 1002

The period of performance (PoP) for this TD has ended. This revision is part of TD closeout and tracking.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$		
1003	MATERIALS	$		
1004	ODCs	$		
1005	TRAVEL	$		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):
This finalizes TD-004 documentation.

TD is closed and has an underrun: $13,537.78 (CLIN 1004 - $938.06) and (CLIN 1003 - $12,599.72).

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$488,040**

12a. CURRENT PERIOD OF PERFORMANCE
COMPLETED

12b. TD REV PERIOD OF PERFORMANCE
CLOSEOUT

13. **CONTRACTOR SIGNATURE AND DATE**
Signature:
Date: _____

14. REGION
CENTCOM

15. **TECHNICAL POINTS OF CONTACT**
Regional Lead (b)(6)
(b)(6)
Regional Science Manage (b)(6)
(b)(6)

16. **CONTRACTING OFFICER REPRESENTATIVE APPROVAL**
X
(b)(6)
COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclnsively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	004	B

4. TD TITLE
DTRA/CBEP Implementation of a Regional Landscape Analysis in the Southeast Asia Region

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHON (b)(6) AIL (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE
EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision adjusts funding on the following CLINs:
(1) From CLIN 1003, move $20,866.90 to CLIN 1002
(2) From CLIN 1004, move $8,452.33 to CLIN 1002
(3) From CLIN 1005, move $2,642.21 to CLIN 1002

Total amount moved: $31,961.44 to CLIN 1002

The period of performance (PoP) for this TD has ended. This revision is part of TD closeout and tracking.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):
This finalizes TD-007 documentation.

TD is closed and has an underrun: $172.05 on CLIN 1005.

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$850,489**

12a. CURRENT PERIOD OF PERFORMANCE
COMPLETED

12b. TD REV PERIOD OF PERFORMANCE
CLOSEOUT

13. CONTRACTOR SIGNATURE AND DATE

Signature: _____

Date: _____

14. REGION
PACOM

15. TECHNICAL POINTS OF CONTACT

Regional Lead (b)(6)
(b)(6)
Regional Science Manage (b)(6)
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X
(b)(6)
COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing pnrposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
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Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	009	B

4. TD TITLE
BS&S Training in South Africa

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision adjusts funding on the following internal TD-009 CLINs:
(1) From CLIN 1004, move $717.46 to CLIN 1002
(2) From CLIN 1005, move $11,545.91 to CLIN 1003

The total funding moved from CLINs 1003 & 1005: $12,263.37

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

No further changes to the previously approved proposal are required at this time

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$		
1003	MATERIALS	$		
1004	ODCs	$		
1005	TRAVEL	$		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ **$0**	**16-MAY-2015 – 15 MAY 2016**	Signature: _____
11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV: $ **$335,608**	12b TD REV PERIOD OF PERFORMANCE **15-MAY-2016 – 15-NOV-2016**	Date: _____

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
AFRICOM/ South Africa	South Africa Country Manager: (b)(6) AFRICOM Science Manager (b)(6)	X (b)(6) COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed qnantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing pnrposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

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Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	011	A

4. TD TITLE
Research Project Ukraine TADR Activity Project 4 (TAP-4)

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision adjusts funding on the following CLINs:
(1) From CLIN 1002, move $19.27 to CLIN 1003
(2) From CLIN 1002, move $1,519 73 to CLIN 1005
(3) From CLIN 1004, move $2,768.39 to CLIN 1005
Total amount moved: $19.27 to CLIN 1003 and $4,288.12 to CLIN 1005 (Total = $4,307.39)

(4) From TD-011 CLIN 1002, move $32,275.93 to TD-012 CLIN 1002

The period of performance (PoP) for this TD has ended. This revision is part of TD closeout and tracking

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES).

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):
This finalizes TD-011 documentation.

TD is closed and has an underrun: $39,414.85 on CLIN 1002.
Remaining funds remitted back to the government and realigned onto TD-012 (UP2) CLIN 1002 - $32,275.93.

TD underrun post TD-012 CLIN realignment: $7,138.92

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$116,880**

12a. CURRENT PERIOD OF PERFORMANCE
COMPLETED

12b. TD REV PERIOD OF PERFORMANCE
CLOSEOUT

13. CONTRACTOR SIGNATURE AND DATE

Signature: _____

Date: _____

14. REGION
EUCOM/ Ukraine

15. TECHNICAL POINTS OF CONTACT
Ukraine Country Manage (b)(6)
(b)(6)
EUCOM Science Manage
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X
(b)(6)
COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing pnrposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclnsively
    b. Funds Authorized inclusive of all Revisions, Cnmmulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

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TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	012	B

4. TD TITLE
Continued implementation of Research Activity Project UP-2 (Ukraine Project 2)

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE: (b)(6) AI (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE
EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision adjusts funding on the following CLINs:
(1) From CLIN 1003, move $40.83 to CLIN 1002
(2) From CLIN 1004, move $2,632 00 to CLIN 1002

Total amount moved: $2,672.83

(3) From TD-011 CLIN 1002, moved $32,275.93 to TD-012 CLIN 1002

The period of performance (PoP) for this TD has ended. This revision is part of TD closeout and tracking.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES).

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):
This finalizes TD-012 documentation.

TD is closed with zero underrun.

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$297,064.30**

12a. CURRENT PERIOD OF PERFORMANCE
COMPLETED

12b TD REV PERIOD OF PERFORMANCE
CLOSEOUT

13. CONTRACTOR SIGNATURE AND DATE

Signature:

Date: _____

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM/ Ukraine	Ukraine Country Manager (b)(6) EUCOM Science Manager (b)(6) (b)(6)	X (b)(6) COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing pnrposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclnsively
    b. Funds Authorized inclusive of all Revisions, Cnmmulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
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8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	012	B

4. TD TITLE
Continued implementation of Research Activity Project UP-2 (Ukraine Project 2)

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$32,276.28**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE (b)(6) EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision increases the ceiling by $32,276.28 and adjusts funding on the CLINs detailed in Block 10 below for closeout

The period of performance (PoP) for this TD has ended. This revision is part of TD closeout, tracking and invoicing purposes.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 162,102.77		
1003	MATERIALS	$ 134,961.51		
1004	ODCs	$ -		
1005	TRAVEL	$		
	TOTAL	**$ 297,064.28**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$297,064.28**

12a. CURRENT PERIOD OF PERFORMANCE
COMPLETED

12b. TD REV PERIOD OF PERFORMANCE
N/A

13. CONTRACTOR SIGNATURE AND DATE
Signature: _____
Date: _____

14. REGION
EUCOM: Ukraine

15. TECHNICAL POINTS OF CONTACT
Ukraine Country Manager (b)(6)
EUCOM Science Manager (b)(6)
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X
(b)(6)
COR/ JSCTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclnsively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

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TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	013	C

4. TD TITLE

ONE HEALTH EPIDEMIOLOGY TRAINING IN UGANDA

5. TOTAL TD ESTIMATE:

HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHONE (b)(6) MAIL (b)(6)

7. CONTRACTOR POC

NAME: (b)(6)

PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision adjusts funding on the following internal TD-013 CLINs:

(1) From CLIN 1003, move $2,092.03 to CLIN 1002
(2) From CLIN 1003, move $9,129.37 to CLIN 1005
(3) From CLIN 1004, move $9,280.84 to CLIN 1005

The total funding moved from CLINs 1003 & 1004: $20,502.24

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	**13. CONTRACTOR SIGNATURE AND DATE**
$ $0	**16-MAY-2015 – 29-FEB- 2016**	Signature: _____
11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:	12b. TD REV PERIOD OF PERFORMANCE	Date: _____
$ $350,242.27	**15-MAY-2016 – 15-NOV-2016**	

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
AFRICOM/ Uganda	Uganda Country Manager: (b)(6) AFRICOM Science Manager (b)(6)	X (b)(6) COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed qnantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
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11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
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    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
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8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	014	C

4. TD TITLE
Development of a writing workshop to mentor selected participants of the One Health Zoonotic Diseases Workshop held in Kenya on March 2015

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision adjusts funding on the following CLINs:
(1) From CLIN 1005, move $2,875.66 to CLIN 1002

Total amount moved: $2,875.66

The period of performance (PoP) for this TD has ended. This revision is part of TD closeout and tracking.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):
This finalizes TD-014 documentation.

TD is closed and has an underrun of $12,575.69:
- CLIN 1003, $6,945.23
- CLIN 1004, $1,544.12
- CLIN 1005, $4,086.34

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$113,984.16**

12a. CURRENT PERIOD OF PERFORMANCE
COMPLETED

12b. TD REV PERIOD OF PERFORMANCE
CLOSEOUT

13. CONTRACTOR SIGNATURE AND DATE
Signature: _____
Date: _____

14. REGION
AFRICOM/ Kenya

15. TECHNICAL POINTS OF CONTACT
Kenya Country Manager (b)(6)
(b)(6)
AFRICOM Science Manag
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X _____
(b)(6)
COR/ JSCTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclnsively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	016	C

4. TD TITLE
Subject Matter Expertise in Geographic Information Systems (GIS) Modeling and Regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision adjusts funding on the following internal TD-016 CLINs:
(1) From CLIN 1002, move $4,452 58 to CLIN 1005
(2) From CLIN 1004, move $1,332 13 to CLIN 1005

The total funding moved from CLINs 1002 & 1004: $5,7784.71

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$		
1003	MATERIALS	$		
1004	ODCs	$		
1005	TRAVEL	$		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$271,706.42**

12a. CURRENT PERIOD OF PERFORMANCE
15-SEP-2015 – 15 MAY 2016

12b TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:

Date: _____

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM/ Georgia	Georgia Country Manage (b)(6) (b)(6) EUCOM Regional Science Manag (b)(6) (b)(6)	X (b)(6) COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
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10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclnsively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	017	A

4. TD TITLE
Grantsmanship Support and Mentorship in Georgia

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$95,712**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)

7. CONTRACTOR POC
NAME (b)(6)
PHON EMAI (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision modifies the original technical directive and extends the end of the Period of Performance (PoP) for TD-017 from 15 May 2016 to 15 November 2016. This PoP extension is to continue providing expertise in grantsmanship at the Laboratory of the Ministry of Agriculture in Georgia only. The Metabiota team should no longer provide expertise in grantsmanship development at the Richard G. Lugar Center for Public Health Research. Metabiota should coordinate directly with the Technical POCs identified below. Your technical approach as outlined in TD-017, proposed budget, and basis of estimate for continuing this requirement, not to exceed $95,712 is requested by 17 May 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below. No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES)

Proposal Development & Initiation:
Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. A key assumption for this effort is that the Georgian scientists have their own research ideas which can be shaped into proposals. A second key assumption is that Metabiota Subject Matter Experts providing grantsmanship support will not be the primary drafters of any white papers or full proposals, but rather will only provide assistance in drafting said white papers and proposals. A third key assumption is that the Georgian scientists will not require any assistance in analysis of any data which may be presented in the proposals as preliminary work. It is anticipated that the plan for TD-017 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:
From the information provided in Box 8, Metabiota assumes that there are several relevant POCs at LMA which will be involved in the grantsmanship efforts. The Metabiota PM and PC will, upon approval of the TD, engage relevant LMA stakeholders to begin understanding what efforts they would like to work on. Upon approval and receipt of additional information, the Metabiota PM and PC will identify a grantsmanship subject matter expert (billed as SME 2) and work to either onboard them as a Metabiota employee, or establish a subcontract or independent consulting arrangement with the VS. The Metabiota PM, PC, and SME 2 will participate in communicat ons with stakeholders at LMA in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the SME 2 to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO-Tbilisi.

In-Country Grantsmanship Mentoring
Mentoring will consist of in-country and remote mentoring. Based on our understanding of the requirements, Metabiota does not expect to be required to provide data analysis support to the LMA scientists. In order to ensure the success of the in-country mentoring visits, the PM, PC, and SME 2 will work with the POCs at LMA to establish a list of deliverables to be provided to Metabiota prior to any in-country mentoring. These deliverables may include budgetary data, drafts of proposed plans and SOPs, drafts of white papers and full proposals, and analyses of preliminary data complete with methodology. The PM and PC will maintain regular communications with the SME 2 to ensure that the SME 2 has all required resources for mentoring. After assessing the need for in-country mentoring, the SME 2 will implement the mentoring work plans, only assisting with actual proposal writing in cases of last resort.

Metabiota is proposing a slight alteration of our plans from Revision A based on observations from our first two in-country mentoring sessions. In particular, we have seen that mentees can become distracted with their primary duties at LMA and are thus proposing to run two cohorts of mentees simultaneously but for two weeks of half-day sessions. This would allow each cohort to dedicate part of their day directly to their normal duties which we believe will reduce distraction during the portion of their day focused on grantsmanship mentoring. One cohort would run in the mornings, and the other cohort would run in the afternoons. We are proposing to run two (2) two-week sessions (July and September), with remote mentoring in between. In the July session, cohort 1 would be working on full proposal and cohort 2 would receive their second session on white papers. In the September session, cohort 1 would be finishing full proposals and participating in a train-the-trainer approach to assist cohort 2 with their first efforts on full proposals.

Reach-back Support / Remote Mentoring:
Based on our understanding of the requirements, Metabiota does not expect to be required to provide primary authorship support to any proposals, but does expect the SME 2 to be available to provide remote editorial guidance and limited assistance with drafting of select passages. Through regular communications with the respective project teams, Metabiota will be made aware of any additional subject matter expertise requests. The SME 2 will address these needs as they arise.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):
Table 1: Incremental funding requested for 16 May 2016 – 15 November 2016, per CLIN. Please note that labor rates have changed.

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$108,935.40
1003	MATERIALS	$0.00
1004	ODCs	$0.00
1005	TRAVEL	$25,570.50
TOTAL		**$134,505.90**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES::

Labor

Costs for direct labor to support this activity is required for the following personnel:

All phases:

Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensur ng the program remains within scope budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Expert may be an independent consultants or subcontractor, the Metabiota PM will additionally provide management oversight of the project subcontractors (microbiology SME) and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance. and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Pro ect Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipat ng, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the SME 2, to include leading regular coordination calls with the SME 2, participating in regular communications between the proposal stakeholders and the grantsmanship SME, and coordinating with the SME 2 to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline The PC will aid the PM and SME 2 in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the grantsmanship SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance. and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Subject Matter Expert 2: The SME 2(s) will serve as the grantsmanship SME(s). The SME 2(s) will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each proposal, the needs and expectations of the Georgian scientists, and the grantsmanship assistance needed. The SME 2(s) will provide mentoring as directed by the respective project leads. We are expecting a higher level of effort required in the extension period as mentees move into developing full proposals which would require more time to review. During the base period we leveraged other CBEP work travel to Tbilisi to be able to supply additional fractional support in country, and expect to do the same during the extension period.

Materials

No additional material costs are projected for the extension of the period of performance.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel performing work overseas on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement. No additional funds for DBA insurance are requested for the extension of the period of performance.

Subcontracts

Subcontracts will be issued to the SME 2 and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested to support the deployment of the SME(s) to Tbilisi, Georgia for two (2) two-week deployments. During the base period we leveraged other CBEP work travel to Tbilisi to be able to supply additional fractional support in country, and expect to do the same during the extension period. No additional travel is projected based on the requirements provided. Projected airfares are based off of actual quotes, but may be subject to changes based on timing of purchase. The travel budget represents the estimated amount required; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 108,935.40		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ 25,570.50		
	TOTAL	**$ 134,505.90**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $134,505.90

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $271,237.90

12a. CURRENT PERIOD OF PERFORMANCE

23-SEP-2015 – 15 MAY 2016

12b. TD REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:_____

Date:_____

14. REGION

EUCOM/ Georgia

15. TECHNICAL POINTS OF CONTACT

Georgia Country Manager (b)(6)

(b)(6)

EUCOM Regional Science Manager (b)(6)

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

COR/ TORP Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solntion Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclnsively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	018	B

4. TD TITLE	5. TOTAL TD ESTIMATE
On-site Expertise in Genomic Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia	HOURS: _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHON (b)(6) EMAIL (b)(6)	PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-018 from 15 August 2016 to 15 November 2016. This PoP extension is to provide enough time to continue providing on-site expertise in genomic research activities at the Richard G. Lugar Center for Public Health Research in Georgia. Metabiota should coordinate directly with the Technical POCs identified below. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below. No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

Proposal Development & Initiation:
Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. A key assumption for this effort is that the Georgian scientists are generally capable of conducting genomics and bioinformatics analyses on their own but that the requested support personnel will occasionally be asked to directly perform genomic and bioinformatics analyses. A second key assumption for this effort is that it is expected to be a full-time expat position. ~~It is anticipated that the plan for TD-018 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings.~~ During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:
~~From the information provided in Box 8, Metabiota assumes that the unspecified CBEP-funded research projects are ongoing affairs led by third parties. In order to effectively ensure that an appropriate genomics subject matter expert (genomics SME, billed as a Visiting Scientist/VS) is available to provide the requested mentoring, the Metabiota PM and PC will, upon approval of the TD, continue to engage relevant DTRA CBEP and Lugar~~ Center stakeholders to identify how, where, and when project status updates are communicated (for example, monthly teleconferences, ~~weekly email exchanges, etc.) and what the onboarding and daily requirements are for working at the Lugar Center.~~ Upon approval and receipt of additional information, the Metabiota PM and PC will work with the identified VS to modify their existing subcontract. The Metabiota PM, PC, and VS will participate in project communications in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the VS to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota PM and PC will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO-Tbilisi.

Mentoring and Performance of both Genomics and Bioinformatics Analyses and Operational Oversight of the Genomics Center:
Mentoring will consist of in-country mentoring supporting various genomics and bioinformatics projects being conducted in Georgia by NCDC and LMA. The PM and PC will maintain regular communications with the VS to ensure that the VS has all required resources for mentoring. After assessing the need for genomics mentoring, the VS will work with the PM, PC, and other appropriate stakeholders to develop mentoring work plans. The VS will then implement the mentoring work plans assisting with actual analyses and scientific writing when necessary. Additionally, the VS will provide oversight over the operations of the genomics center. The VS will work with Lugar Center POCs to identify candidates for mentorship in operating the genomics center, and work with the PM, PC, and Lugar Center stakeholders to develop and execute a strategy for developing these candidates' abilities to operate the genomic center without guidance.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

Budget requested in the table below is incremental funding per CLIN required for the extension period and does not include original funding amounts.

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$102,801
1003	MATERIALS	$0
1004	ODCs	$1,344
1005	TRAVEL	$0
TOTAL		**$104,144.96**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES).

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and

communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Expert will be a subcontractor, the Metabiota PM will additionally provide management oversight of the genomics SME and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the genomics SME, to include leading regular coordination calls with the genomics SME participating in regular communications between the project stakeholders and the genomics SME, and coordinating with the genomics SME to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline. The PC will aid the PM and VS in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. The Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Project Coordination & Mentorship phases only:
Visiting Scientist: The VS will serve as the genomics SME. The VS will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project, the needs and expectations of the Georgian scientists, and the genomics subject matter expertise needed. The VS will provide mentoring as directed by the respective project leads. The VS will also provide oversight and management of the Genomics Center at the Lugar Center. Labor has been calculated at approximately 0.7 FTE.

Other Direct Costs
Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts
A subcontract extension will be issued to the VS and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support the deployment of the VS to Tbilisi, Georgia for the initial deployment travel and final return. No additional travel is projected based on the requirements provided. The travel budget represents the estimated amount required; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable. Also of note, lodging at GSA rates for Tbilisi, Georgia have included to this budget. It is assumed that the TBD VS will require some time to identify long term lodging (length of assignment), which would be covered by his expat uplift.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	**13. CONTRACTOR SIGNATURE AND DATE**
$ **$0**	**15-MAY-2016 – 15-AUG- 2016**	Signature:_____
11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:	12b. TD REV PERIOD OF PERFORMANCE	Date:_____
$ **$0**	**15-AUG-2016 – 15-NOV-2016**	

14. REGION	**15. TECHNICAL POINTS OF CONTACT**	**16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL**
EUCOM/ Georgia	Georgia Country Manager (b)(6) (b)(6) EUCOM Regional Science Manager (b)(6) (b)(6)	X (b)(6) COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed qnantity(ies) for TD completion.
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    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	019	A

4. TD TITLE
On-site Expertise in Genomic Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$382,331**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC
NAME (b)(6)
PHONE
EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-018 from 15 May 2016 to 15 November 2016. This PoP extension is to continue providing on-site expertise in microbiology research activities at the Richard G. Lugar Center for Public Health Research in Georgia. Metabota should coordinate directly with the Technical POCs identified below. Your technical approach as outlined in TD-019, proposed budget, and basis of estimate for continuing this requirement, not to exceed $342,000 is requested by 17 May 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below. No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES)

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$0**

12a. CURRENT PERIOD OF PERFORMANCE
23-SEP-2015 – 15 MAY 2016

12b. TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE
Signature: _____
Date:

14. REGION
EUCOM/ Georgia

15. TECHNICAL POINTS OF CONTACT
(b)(6)
Georgia Country Manager
(b)(6)
EUCOM Regional Science Manager (b)(6)
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X
(b)(6)
COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact Details
8. Description of the Technical Directive Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	021	A

4. TD TITLE

Iraq Field Epidemiology Training Program (FETP) Support

5. TOTAL TD ESTIMATE:

HOURS: 5,750 DOLLARS: $ **$761,026**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHONE

7. CONTRACTOR POC

NAME: (b)(6)

PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-021 from 15 May 2016 to 15 November 2016 at no additional cost. This PoP extension is to provide enough time to continue providing field epidemiology training support in Iraq. Metabota should coordinate directly with the Technical POCs identified below. No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV.

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$761,026**

12a. CURRENT PERIOD OF PERFORMANCE

24-FEB-2016 – 15 MAY 2016

12b. TO REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

Signal (b)(6)

Date: **13 May 2016**

14. REGION

CENTCOM/ Iraq

15. TECHNICAL POINTS OF CONTACT

(b)(6)

Iraq Country Manager

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
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8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	021	B

4. TD TITLE	5. TOTAL TD ESTIMATE:
Iraq Field Epidemiology Training Program (FETP) Support	HOURS: ___0____ DOLLARS: $.**$0**.

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME (b)(6)
PHONE (b)(6) MAIL (b)(6)	PHON EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision modifies the original technical directive by scaling back the requirements outlined in Block 8, Phase 4 of Task 1: Integrated Biosafety and Security and Epidemiology Enhancement within the original TD-021 at no additional cost.

The revised language for Task 1 Phase 4 is as follows:

Phase 4 will include the development of a gap analysis and recommendation report conducted by Metabiota subject matter experts and Iraqi technical experts nominated by the Iraqi National Monitoring Authority (INMA). Metabiota will work collaboratively with the Iraqi technical experts to understand the NBERP, identify gaps, and develop recommendations to improve the plan. Metabiota will present a summary of the gap analysis and recommendations to the National Biorisk Management Committee on September 8, 2016, via video teleconference from Sandia National Laboratories in Albuquerque, New Mexico. The presentation will be made in collaborat on with the INMA technical expert, and include a question and answer period. Should Metabiota encounter schedule delays in working with the Iraqi technical experts that preclude the possibility of finalizing, translating, and clearing a presentation in time for NBMC, then Metabiota will provide a verbal summary at NBMC, followed by a written report submitted to DTRA prior to the end of the contract. Additionally, this task will not require any international travel by the contractor. The estimated labor categories that are needed to support this effort are: Program Manager (PM), Subject Ma:ter Expert (SME) Level I, SME Level II, and Foreign Local National (FLN) support.

Your revised technical approach, budget and basis of estimate for implementing this modification are requested by 26 July 2016.

No further changes to the previously approved proposal are required at th s time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation (Task 1):
Metabiota developed a project plan and implementation strategy that aligns with narrative from Box 8. It is anticipated that the plan for TD-021 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as a Subject Matter Expert 1)) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.
Key assumptions:

1. The Iraqi participants identified for all phases are capable of speaking, reading, and writing English, including technical concepts.
2. DTRA CBEP can and will assist in coordination and socialization with Iraq ministries and US Embassy, and will participate in the identification of appropriate Iraqi participants for all phases.
3. Metabiota assumes that the learning management system (LMS) does not need to meet DoD information security standards.
4. DTRA CBEP, through CLS or another party, can facilitate transport of Iraqi participants to a single, secure location for hands on training.
5. DTRA CBEP or other USG entity will bear the cost of providing security for said location(s) and all participants during that time period.
6. Metabiota-engaged FLNs will be able to access said location(s) during the appropriate times necessary to implement work.
7. Metabiota personnel providing guidance and support will **not** be the primary drafters of the gap analysis document.
8. Iraqi participants will have reliable access to the internet, with enough bandwidth to support videoconferencing.

Project Coordination (Task 1)
The Metabiota PM(s) and PC will coordinate with th (b)(6) EVP Science Integration and the functional group leads for Biorisk Management, Epidemiology, and Veterinary Science to identify the appropriate SMEs in epidemiology and biosafety and biosecurity (BS&S) to develop and augment materials, and deliver a high quality and sustainable engagement in coordination with CBEP CENTCOM.

From the information provided in Box 8, Metabiota assumes that some type of field epidemiology training is already in existence in Iraq. In order to effectively ensure that our training materials align with existing efforts, the Metabiota PM(s) and PC will, upon approval of the TD, engage (b)(6) and other relevant stakeholders, including DTRA CBEP, for additional information including existing training materials in both epidemiology and BS&S. The Metabiota PM(s), PC, and SMEs will participate in regular project communications with all stakeholders to ensure mutual understanding of goals, actions, and status. The Metabiota PM, PC, and SMEs will also participate in separate discussions wit (b)(6) o identify core participants.

The Metabiota PM and PC will work with the SMEs to ensure that all necessary documentation required prior to initiating tasks such as training is completed correctly and submitted on time, including Training Event Plan (CDRL A014) and CTR CLS Form (CDRL A016). Additionally, that all associated reports, including Monthly Reports (CDRL A001), Training Trip Report (CDRL A006), Post-Training Assessment (CDRL A015) are filed on time. The Metabiota PM(s) and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS via the CBEP Technical Point of Contact.

Training Material Development and Adaptation (Task 4)
Metabiota will reuse existing training materials from EIS, FETP, and other widely recognized training programs as much as possible. However, based on inputs from (b)(6) and given the need to conduct this training remotely Metabiota expects to use SMEs to adapt training materials and case studies for effective remote delivery and to specifically address the environment in Iraq. Metabiota SMEs will develop new materials including slide

presentations, videos, interactive quizzes, etc. to effectively leverage the online learning environment. Metabiota will also develop, as appropriate, pre-tests and post-tests for monitoring and evaluation purposes. Training materials, after development and adaptation, will be delivered to DTRA CBEP for technical review and Public Affairs approval. Several of Metabiota's personnel are EIS graduates and we expect to leverage their efforts for the epidemiology-related work. Metabiota personnel and those of our partners also have extensive BS&S and biorisk management experience, and we will leverage those personnel for the BS&S-related work.

Coordination for Training Material Translation (Task 1)
Translation of training materials, if determined to be necessary, will be handled via CLS per contractual direction. Metabiota PM(s) and PC will deliver training materials and CLS form(s) to the CBEP Technical Point of Contact for appropriate routing.

Learning Management System Implementation
Metabiota will utilize a learning management system for the delivery of course materials. Metabiota FLNs will familiarize themselves with the LMS in order to be able to provide adequate locally-based support to the training participants. Metabiota SMEs, aided by the PC and FLNs, will create courses and upload training materials.

Remote Epidemiology and BS&S Training (Task 3)
Metabiota SMEs will execute 6-week training modules on epidemiology and BS&S. Metabiota expects each week to consist of 1-2 lecture sessions conducted via internet videoconferencing which will be recorded for those participants unable to participate live. These will be augmented by the online materials. Metabiota SMEs will be available for virtual "office hours" and to answer written communications from participants. Metabiota SMEs will also grade any assignments and provide feedback to the participants on their performance. FLNs will be used to facilitate any minor logistical needs during this period.

Hands-on Course (Task 3)
Metabiota SMEs and FLNs will execute a one-week hands-on course for the core participant group. This hands-on course will be designed to emphasize the key points of the remote epidemiology and BS&S trainings, especially those which would benefit from practical exercises such as PPE donning and doffing. Metabiota expects to leverage CLS to provide the venue, simultaneous interpretation, and any other logistical needs.

NBEP Gap Analysis and Virtual Workshop (Task 4)
The Metabiota team will work with Iraqi stakeholders/SMEs to conduct a gap analysis of the National Biological Emergency Plan (NBEP). Metabiota expects to use a mix of effort from epidemiology, biosafety, biosecurity, biorisk management, and emergency response SMEs to conduct this gap analysis. Metabiota will work with the Iraqi stakeholders to obtain the latest version of the NBEP. Together, Metabiota and the Iraqi stakeholders (collectively, "the analysis team") will then develop an operational plan for conducting the analysis and drafting a report and presentation. Metabiota SMEs, in conjunction with the Iraqi stakeholders, will then examine the NBEP to identify gaps and critical strategic junctures in the plan, and also to identify potential modes of failure. The analysis team will further devise recommendations to potentially address and/or test any identified gaps and modes of failure. The analysis team will prepare a short presentation on their findings to be presented at the National Biorisk Management Committee meeting in Albuquerque, New Mexico.

Epidemiology Training #2 (Task 1, Task 3, Task 4)
The Metabiota PM, PC, and SMEs will participate in discussions with (b)(6) to identify a second cohort of participants for the epidemiology module of the remote training. The Metabiota SMEs will further modify epidemiology training materials taking into consideration that the second cohort of participants will not be afforded the chance to participate in a hands-on course to reinforce their knowledge and skills. After the materials have been modified and uploaded to the LMS and the participants identified, the Metabiota SMEs will execute the 6-week training module.

Project Closeout (Task 1)
Metabiota PM, PC, and SMEs will all contribute inputs to a final report documenting the projects. The report will include lessons learned and an after-action report detailing enhancements that could be made should this type of project be repeated, either in Iraq or in other CBEP-engaged countries. Training records will also be provided to DTRA CBEP. Additionally, at the end of the period of performance, the LMS will be transitioned to DTRA CBEP for their use and maintenance.

Monitoring and Evaluation
As part of the remote trainings and the hands-on course, Metabiota intends to administer tests to evaluate knowledge and skill levels both prior to and immediately following trainings. However, Metabiota recognizes that post-tests occurring during the period of performance will only measure short term retention. As an additional value to the client, Metabiota intends to develop and provide to CBEP post-tests which can be conducted at six month, 1 year, and 2 year intervals after training completion. Metabiota will administer the evaluations if requested by CBEP.

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the attached Risk Management Matrix.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$711,773
1003	MATERIALS	$26,260
1004	ODCs	$4,535
1005	TRAVEL	$4,595
TOTAL		**$747,163**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES)

The basis of estimate for the TD has been revised and updated to account for a realignment in costs, as well as a request for travel funding to support presentation of the NBEP gap analysis at the NBMC.

Labor

Costs for direct labor to support this activity is required for the following personnel:

All phases:

Task 1 - Project Coordination: Metabiota will provide consistent and cohesive technical and administrative leadership, direction, program management, implementation oversight, and coordination of all project activities.

Metabiota Program Manager(s) (PM): The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of DTRA CBEP goals at the country and regional level in direct support of this activity and the CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the SME I to ensure all day-to-day activities for the project are completed on time, and to the quality required by CBEP

Metabiota Project Coordinator: A SME I will act as a Project Coordinator (PC) throughout the planning and execution of project objectives. The PC will lead the planning and execution of CBEP objectives towards the completion of project goals by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will manage the SMEs, to include leading regular coordination calls with the SMEs and participating in regular communications between the trainees.

To ensure the project in managed according to CBEP standards, the PM and PC will be responsible for the following:

Initiation and Program Integration: The PM, with PC support, will assist in the development of the project proposal to include the project timeline, and identification and integration of project requirements, deliverables, subcontractors, SMEs, and trainers to ensure project success. Upon acceptance of the proposal, the PM will hold a kick-off meeting with team members and partners to review the project plan and schedule, establish routine communication to support project implementation, initiate education on the contract requirements, and begin project implementation. Routine communication with all stakeholders will ensure that all deliverables, including required CDRLs, are met and submitted according to the project schedule and contract requirements.

The PM and PC will work closely with (b)(6) identify and select appropriate participants for the training course, ensuring they meet standards for inclusion, and are vetted according to CBEP protocols. In addition, the PM and PC will coordinate all aspects of training implementation, to include identification and appropriate engagement of FLNs, to include a Training Coordinator, to support in-country training, act as the day-to-day manager of identified FLNs, and interface regularly with project personnel to ensure that in-country training requirements are met. The PM will ensure that FLNs are contracted with, engaged according to contract and project requirements, and have the background and skills necessary to support training implementation. FLNs are being billed at the CENTCOM FLN III rate due to the difficulty of finding personnel and hazard of working in Iraq.

The PM will ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Communications Management: To support routine communication on the project critical to successful execution of the project, the PM and PC will establish bi-weekly project calls with all key stakeholders, to include the CBEP POC, subcontractors, in-country FLNs, SMEs, and others identified as critical to support this training during key phases identified in the project proposal. This will serve to ensure understanding of project requirements and to identify project risk at the forefront, in order to implement mitigation strategies throughout the project lifecycle, ensuring overall success. The PM will also lead communication efforts with DTRA CBEP for this activity, guaranteeing that all aspects of the project are being managed in direct coordination and communication with key team members. The PC will provide support to the PM by coordinating day-to-day activities and maintaining and scheduling routine communications, ensuring that stakeholders are provided routine visibility on the project through in-person and virtual meetings, calls, weekly reports, and updates.

Time and Cost Management: The PM and PC will ensure time and cost management and routine receipt of project reports, invoices, and other needs to support project efforts. The PM and PC will also ensure that all project deliverables are submitted on time and to the quality required for this engagement. This will include coordination, development and submission of the following contract CDRLs associated with this project: CDRL A001 Monthly Report A006 Training Trip Report A011 Transfer of Materials A014 Training Event Plan, A015 Post Training Assessment A016 CTR logistics form, and A017 Meeting Agenda and Report. All CDRLs will be developed and submitted according to the contract requirements, and assigned timelines.

Stakeholder Management: The PM will oversee the identification, development and execution of subcontracting requirements for this project. This will include identifying the necessary subcontractors, developing the subcontractor package jointly with the Metabiota contracts office, educating identified subcontractors on T&M contract requirements, and ensuring invoicing and deliverables meet contract standards. The PM will oversee all work performed by the subcontractor throughout the project and will close out the subcontract following completion of work performed in support of this effort. The PM will participate in identifying necessary subcontractors/ independent consultants, and initiate their engagement through contract development and execution.

Procurement and Logistics Management: The PM and PC will coordinate with CLS for all travel, logistics, translation, and training requirements in country. Utilizing CDRL A016 the CTR logistics form, PM will submit all requirements directly to CBEP and once approved, PC will coordinate directly with CLS team members to ensure all shipping and logistics requirements are met according to timeline. PC will work jointly with CLS personnel to develop and submit required BOMs, and move supplies through the customs clearance process in conjunction with the DTRO. PM/PC will coordinate all logistics requirements with CLS and, once approved by CBEP, will remain in direct communication with CLS team members to ensure on-the-ground logistics are executed according to project scope and requirements.

Quality Management: The Project Coordination team will work closely with Metabiota SMEs to ensure that all training materials and deliverables submitted and utilized on the project meet CBEP's requirements. In addition, SMEs will be responsible for QA/QCing training materials and working directly with engaged FLNs to ensure the training is performed at FETP international standards. All work of internal SMEs, FLNs, and partners will undergo peer review by Metabiota functional group leaders to ensure high quality is maintained.

Human Resources Management: To further build out the project team, the PM and PC will work closely with Metabiota's scientific bench to identify

and integrate internal SMEs to this project. The PM will oversee and coordinate their efforts on the project in support of adapting and developing training materials, remotely executing the training course, and providing M&E to ensure information learned is retained and applied at home organizations. The PM will ensure that SMEs are coordinating directly with other project team members, performing required duties, and PM will track overall LOE according to budget and project requirements for all team personnel.
Close out: The PM and PC will oversee project closeout to include wrap-up of training, finalization of deliverables, final reports, and transfer of materials. The PM will also ensure the conclusion of subcontracts and other employment agreements.

Task 4 - Subject Matter Experts (SMEs): Metabiota will provide ongoing technical support and expertise through the use of SMEs, to include the development and evaluation of training methods and materials, and to support the implementation of trainings. Metabiota SMEs engaged for this effort will provide expertise and input on the development and revision of existing training materials. They will take part in identifying and engaging trainees in conjunction with the project coordination team (b)(6) and the CBEP CM, and ensuring that the cohort selected includes FETP graduates and current residents, critical to this engagement with the basic skills necessary to successfully complete and implement training components at home institutions. SMEs will implement the training courses and will work in partnership with FLN trainers to administer the courses, provide QA/QC of all materials, engage trainees in capacity building and scientific discussions supporting training concepts and implementation, and assist in the development of a gap analysis report. SMEs on this effort will be performing the functions of both SMEs and Qualified Trainers (QTs). In line with government guidance, the SMEs will be billing at the SME I or SME II labor rate, which is the equivalent cost of QT I and IIs. Metabiota has identified internal SMEs that will be a part of this effort. Metabiota will subcontract Watermark Risk Management International, LLC for additional SME support on this effort. Additionally, Research and Data Analyst (RDA) hours have been allotted to assist SMEs in development and adaptation of training materials and course delivery. In addition, RDA hours will be utilized to support delivery of the hands-on course, ensure course approvals, credit hours, and smooth facilitation of course implementation.

Reachback programmatic support to include finance, accounting, and contracts, will be provided as part of CLIN 1001 (FFP) and will not be separately invoiced. In addition, reachback support will be provided by Metabiota science team members skilled in the fields of epidemiology and BS&S, at no cost to the government, to review developed training materials and course requirements.

Labor hours have been realigned, within the total ceiling of the TO approved costs to account for shifts in labor and costing requirements as the project has been further defined and requirements have shifted in scheduling, material development, and gap analysis change of scope.

Materials
Training Materials: Epidemiology textbooks will be procured and distributed to trainers and participants to support the Field Epidemiology Training Program (FETP). This will include supporting the 6-week field epidemiology training course, as well as epidemiology components of the Integrated BS&S and Epidemiology Enhancement course. Risk Management Texts and other published training materials identified by SMEs will be procured and distributed to trainers and participants to support required components of the training courses. All textbooks and published materials will be in English, and will be procured by Metabiota and shipped via CLS or a third-country shipper per contract requirements. If materials can be secured and provided to the trainers/trainees online, shipping will not be required. Metabiota will endeavor to use the LMS for all course materials, ensuring cost savings to the government where possible. SMEs will be engaged to determine the appropriate textbooks, and training materials required to meet course needs.

Personal protective equipment such as Tyvek suits, gloves, goggles, booties, and N95 respirators will be procured for training purposes. Additionally, consumables and other paraphernalia such as chlorine, plastic wash basins, buckets, disinfectant sprayers, and anti-fog spray will also be procured.

USB internet devices and internet access cards will be procured and provided to trainers/trainees in-country to ensure they have access to a stable internet connection during all remote training sessions. USB internet devices will be procured and tested in-country to avoid shipping charges and to ensure they are operational on the ground. USB internet devices and access cards will be monitored by the FLNs to ensure they are used for training purposes only, and are maintained according to equipment/material guidelines for the duration of the course.

General office supplies will be procured to support in-country training activities and routine project needs for the execution of the training courses. Office supplies will be procured locally and will include but may not be limited to, pens, paper, thumb drives, binders, etc.

Metabiota will conduct market research and ensure the best price is secured, maintaining quality and technical requirements for all procurement of goods. Metabiota will coordinate directly with CLS and third-country vendors for all shipping requirements, and will work closely with CLS and DTRO to ensure customs clearance requirements are met and goods delivered according to project timelines and CDRL requirements. Metabiota will ensure cost management for all procured supplies and will coordinate directly with CBEP and CLS to support additional requirements for the hands-on training events to include such items as printing of the developed and adapted training materials, training certificates for participants, and translation services, if needed.

As identification of materials and supplies has progressed and costing proposals received from vendors supporting this effort, Metabiota has realigned costs accordingly to reflect received proposals and confirmed project needs. For example, all materials for the hands-on course will be procured in-country changing the estimated costs for materials from originally projected US-based purchasing. Materials will be procured locally to ensure project schedule is maintained, and to alleviate project delays that could occur due to extended customs clearance requirements. In addition, costs have been reduced, where possible, to reflect the procurement of text book materials through online sources versus hardback procurement. Lastly, it is anticipated that the majority of trainees will have a stable internet connection and that procurement of USB devices and internet access cards will be reduced.

Other Direct Costs
Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project working abroad. DBA insurance will be applied for labor costs incurred overseas. As no travel is authorized for this project, DBA will only be applied to FLNs, or other contractors, engaged on this effort, for the duration of the program. Metabiota maintains a blanket DBA policy for all personnel and will add the FLNs, and other performers meeting DBA requirements, to this policy as they are engaged. A rate of 3.5% of their total compensation will be billed to the project on a monthly basis. A reconciliation of the total DBA will be performed prior to final invoicing to ensure accuracy of the charges, in accordance with total hours worked. Final invoicing will be adjusted, if necessary, to reflect the final DBA allocation numbers.

Due to an increased number of FLNs engaged on the project, to include (b)(6) epidemiology trainer (b)(6) and URC trainers and project personnel, DBA insurance was realigned to reflect anticipated LOE by all foreign nationals performing on this project. As stated above, DBA

reconciliation will be performed at invoice close out to ensure accuracy of billing and rates according to actual hours worked on the project.

Subcontracts

Subcontracts to support this effort were approved and issued to Watermark Risk International, LLC for support in the BS&S training component, as well as URC for the engagement of FLNs to support the hands-on training component of this course, as well as local procurement of all materials and supplies needed for the hands-on course. Labor and material costs required to facilitate the engagement are captured under the respective budgets.

Travel

Foreign travel is not requested to support this effort as all requirements will be executed remotely via a learning management system and online training platform. The hands-on course will be executed using in-country FLNs for in-person support and will be remotely supported by Metabiota SMEs.

Domestic travel is requested to support this effort for the presentation of the NBEP gap analysis at the NBMC in Albuquerque, NM in September. Per discussions with the CBEP project team, and as mentioned in the Box 8, our SME's will travel to Sandia National Laboratories to present our findings via video teleconference to NBMC. Travel costs are requested, in accordance with USG travel regulations, for (3) BS&S trainers, as well as Metabiota Program Manager, Dennis Lee. Travel costs include RT airfare, hotel, ground transportation, and per diem for a two-night stay to jointly deliver the presentation.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	711,773.47		
1003	MATERIALS	$	26,260.23		
1004	ODCs	$	4,534.90		
1005	TRAVEL	$	4,594.75		
	TOTAL	**$**	**747,163.35**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $747,163.35

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $747,163.35

12a. CURRENT PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

12b. TD REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:_____

Date:_____

14. REGION

CENTCOM/ Iraq

15. TECHNICAL POINTS OF CONTACT

(b)(6)

Iraq Country Manager

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact Details
8. Description of the Technical Directive Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3. TD NUMBER
HDTRA1-14-C-0104	METABIOTA	22

4. TD TITLE	5. TOTAL TD ESTIMATE.
Uganda Biosurveillance and Grantsmanship Training	HOURS: 3,234 DOLLARS: $ 170,000.00

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHONE: (b)(6) EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide grantsmanship training and subject matter expert (SME) assistance for the coordination of project design, research proposal development, and implementation of a pilot biosurveillance study in Uganda, in accordance with SOW section 4.4, 4.5 and 4.6, Tasks 4, 5 and 6.

Coordination of such efforts shall focus on the following topics: Ecological and bio-surveillance for Rift Valley fever (RVF) among domestic and wild animal populations in Uganda; Exploring the distribution and characteristics of avian influenza (AI) viruses in migratory waterfowl and poultry in Uganda; and Genetic and epidemiological insights into the occurrence of peste des petits ruminants virus (PPRV) among sheep, goats, cattle, and wildlife in northern Uganda.

The project design and research proposal(s) to be coordinated by Metabiota shall emphasize bio-surveillance of RVF, PPRV, and AI in Uganda and how the collection of this data would help enhance the surveillance capabilities of the country at the national level. It shall also include assistance in the development of standard operating procedures (SOPs) for the projects (e.g., biosafety/biosecurity, sample collection/handling/transport, laboratory analysis, data analysis) with the goal of enhancing local capabilities and developing the skills necessary for the early detection and prevalence determination of RVF, AI, and PPR. Metabiota will perform the following activities during the period of performance:

1. Phase One: Metabiota shall collaborate with CBEP's Ugandan research partners and coordinate with them to develop a work plan for implementation of all of the activities noted below, including project design (development of a research plan) and development of a high-quality, competitive research proposal or proposals (more details below). Metabiota should provide a PM and a SME1 to manage this coordination. The SME1 and PM should reach out directly to the POCs listed below to discuss their vision for the development of a research grant and to discuss additional SME support needed. Ugandan partners on this project are SMEs in various areas and their skills/expertise should be leveraged in accomplishing the goals of this project. The Metabiota PM and SME1 should also review the concept notes already developed by the collaborators that describe their research interests. The SME1 hours required for this should not exceed 25 hours total for maximum 3-5 weeks of coordination. PM oversight should not exceed 25 hours total for this phase.

   Ugandan collaborators should include personnel from the following institutions/organizations:
   a. The National Animal Disease Diagnostics and Epidemiology Centre (NADDEC). POC (b)(6)
   b. The National Livestock Resources Research Institute (NaLIRRI). POC (b)(6)
   c. The African Field Epidemiology Network (AFENET). POC (b)(6)
   d. The Ministry of Health, Division of Veterinary Public Health (MoH-DVPH). POC (b)(6)
   e. The Uganda Wildlife Authority. POC (b)(6)
   f. CDC- POC (b)(6)
   g. The Ministry of Health, Uganda Virus Research Institute (MoH-UVRI). POC (b)(6)
   h. Ministry of Agriculture, Animal Industry and Fisheries (MAAIF). (b)(6)

   Phase One deliverables: Work plan with project design and timeline with clear roles and responsibilities

2. Phase Two: Metabiota shall assist the collaborators identified in Phase 1 with the development of a detailed research plan (experimental design) and research proposal(s), including budget, for epidemiologic studies/bio-surveillance research of RVF, AI, and PPR in Uganda based on the needs and research interests of the identified collaborators. These needs are already described in three concept notes developed by the Ugandan collaborators. The determination of whether one joint proposal or separate proposals will be developed will be made in partnership with Ugandan collaborators. The research plan shall include comprehensive descriptions of the hypothesis and research questions; development of a list of materials

and supplies to accomplish the research studies; and SOPs planned for the collection of samples, including field, laboratory, and data analytics, as well as a discussion of biosafety and biosecurity risks and mitigations (e.g. infectious sample transport and handling). CBEP expectation is for Metabiota to provide the collaborators with SME support (Metabiota and Ugandan SMEs) to inform the development of the proposal(s) that the Ugandan collaborators will write. Metabiota is not expected to write the grant proposal, but to provide oversight regarding the development of hypotheses, research design, and the research proposal writing process. The concept notes are well-developed, but will need to be strengthened to provide additional detail on sample size calculations, sample analysis procedures, data analysis methods, and other specifics to make them competitive research proposals. Metabiota should support the Ugandan collaborators in exploring potential funding options, not only DTRA, and assist them in tailoring their proposal(s) to specific funding opportunities.

To complete this task, Metabiota should provide up to 3 SMEs, including 1-2 from Metabiota and one Ugandan non-governmental SME (i.e. AFENET). Each SME should spend no more than 60 hours total over a maximum of 6 weeks to provide input/feedback and grantsmanship expertise to the research plan (experimental design) and the research proposal(s) developed by the Ugandan collaborators. PM oversight of the SMEs' review and coordination of activities should not exceed 30 hours total for Phase Two.

Phase Two deliverables: Project proposal(s) with budgets and SOPs

3. Phase Three: After completion of activities described in Phase 2, Metabiota shall also provide technical expertise to train stakeholders and work with them to conduct small pilot studies in Uganda to test the SOPs developed for the larger surveillance studies in the proposal(s) to determine their effectiveness and the viability of the project design on a smaller scale. Metabiota shall provide no more than 5 medium-level trainers to assist in the pilot studies. Trainers may be a mix of Metabiota and Ugandan trainers or mostly/all Ugandan trainers, which would be viewed as a strong approach to enhance sustainability of CBEP's investment. The training should consist of one in-country activity as well as continued coordination via email, phone, webinar, or a similar lower-cost communication/coordination mechanism throughout the pilot study period.

   Phase Three, Part One: Preparation and coordination in advance of the in-country training and pilot studies should take no more than 6 weeks, and may begin during Phase Two to maximize efficiency, especially for the definition of the scope and timelines for the pilot studies and the procurement of materials needed for the pilot studies. Coordination will be between Metabiota and all the POCs listed above, as well as identified SMEs/trainers, if different from the above. Training materials should be discussed and obtained during this phase. The training materials will be developed from the project proposal and SOP documents, existing training materials owned/obtained by the Ugandan collaborators, and additional supplemental material as needed. If Metabiota and Ugandan collaborators agree that some necessary training materials do not already exist and need to be developed, the team may work together to augment existing materials. A PM, SME1, and a maximum of 5 medium-level trainers would be an appropriate mix to accomplish the efforts in this phase. Trainers should have expertise in the Ugandan public health, veterinary, and wildlife systems as well as local research methods and processes. Not all people need to participate in all tasks at all times during this planning and coordination, and resources should be conserved to include only the necessary individuals at each step. SME1 hours during Phase Three, Part One should not exceed 40 hours; 55 hours if training materials need to be developed. Hours per trainer for preparation and coordination should not exceed 10 hours; 25 hours if they need to participate in development of training materials. PM hours dedicated to oversight of this planning and preparation should not exceed 30 hours.

   Phase Three, Part Two: The in-country training shall be conducted over a period of 10 working days (5 days per week for 2 separate weeks and should include no more than 20 trainees, to be identified by the Ugandan collaborators, across the 3 pilot studies). The training may be conducted as one comprehensive event, providing overarching skills, knowledge and guidance in a way that it will benefit all three projects; or it may be divided into sections for more focused training on the individual projects; or it may be a combination, with some parts together and some break-out or working group sessions that are more specific. Metabiota should collaborate with the Ugandan POCs and trainers to determine the best approach. The PM, SME1 and trainers' time should not exceed 10 hours per day of training. One day before or after the training for in-person coordination for the pilot studies would be appropriate and should not exceed 8 hours of labor each for the PM, SME1, trainers, and pilot study project leads. It would be acceptable for the trainers and pilot study project leads to be the same people in some cases, as appropriate. PM level of effort should be less than the SME1 given oversight vs. implementation role.

   Phase Three, Part Three: Metabiota will provide management oversight and support to the Ugandan partners in implementation of three pilot field studies. The Ugandan collaborators are in the process of receiving appropriate permits and sample collection can only commence following DTRA Research Oversight Board (ROB) approvals. This activity shall include the procurement of materials and supplies required for the pilot studies, not to exceed $100,000. Metabiota shall work with the Ugandan partners to identify the most efficient, cost-effective way to

procure materials and supplies. Pilot study project leads and field technicians' level of effort should not exceed 680 hours over 8 weeks for pilot study implementation and oversight. There should be no more than 3 pilot study project leads and 11 technicians total supported by Metabiota for all three pilot studies. PM and SME1 hours dedicated to pilot study implementation guidance and oversight should not exceed 60 hours over 8 weeks. PM level of effort should be less than the SME1 given oversight vs. technical SME support role.

The following information and study objectives are provided for reference for proposal development (longer term objectives) and pilot study design/implementation (shorter term objectives). The concept notes developed by the Ugandan collaborators are attached for more detail. The pilot studies should focus on validating the SOPs developed as part of the longer-term study design and proposal development in Phase 2, and on conducting sample collection, lab analysis, and data analysis on a small subset of the various animal populations noted below.

Study 1 - The portion of the project regarding ecological and biosurveillance for Rift Valley Fever (RVF) among domestic and wild animal populations In Uganda shall address the following objectives:

a. Determine the inter-epidemic seroprevalence of RVF in a sample population of relevant domestic animals and wildlife in study areas with clearly identified serotypes. Training in this area should establish better methods for the biosurveillance of epizootic and zoonotic diseases in Uganda.
b. Create/improve contingency plans for RVF outbreaks ready for implementation at the central and local district levels through collaboration with a Ugandan government representative specializing in disease prevention and control as well as outbreak containment in Uganda.

Study 2 - The portion of the project focused on exploring the distribution and characteristics of avian influenza viruses (AIVs) in migratory waterfowl and poultry in Uganda shall include these specific objectives:

a. Establish temporal and spatial distribution and prevalence of AIVs in a sample population of waterfowl and domestic poultry in Uganda.

Study 3 - The portion of the project regarding the genetic and epidemiological insights into the occurrence of peste des petits ruminants virus (PPRV) among sheep, goats, and cattle in northern Uganda shall include these objectives:

a. Determine the prevalence of PPRV in wild animal species in the Kidepo Valley National Park and in goats, sheep, and cattle in Nakapiripirit district of Uganda.
b. Use of RT-PCR to detect the presence of PPRV and competitive ELISA to determine the presence of specific PPRV antibodies.
c. Development of a questionnaire to obtain data on existing control measures, livestock movement patterns, PPRV vaccination practices and prevalence, and other relevant epidemiological and surveillance factors.

For the pilot studies, an appropriate scope would include the following:

Study 1 - Pilot study will include no more than 1,000 serum samples collected from 768 domestic animals (cattle, sheep and goat) and 232 wild animal ruminant and porcine species. Laboratory analysis will be limited to serology (ELISA). Data analysis will include determination of RVF antibody seroprevalence. ELISA will be conducted at the CDC lab at UVRI with participation as appropriate by relevant project collaborators.

Study 2 - Pilot study will include no more than 1,000 serum samples collected from two distinct locations with measurably high levels of interface between the wild birds, domestic poultry, and humans. Samples should be collected from approximately 590 domestic poultry and 410 wild poultry, split evenly between both locations. Laboratory analysis will be limited to ELISA for Influenza A viruses and PCR-based molecular analyses, both to be conducted at NADDEC.

Study 3 - Pilot study will include no more than 1,000 serum samples collected each from two distinct locations. The samples should be from approximately 232 cattle and 768 sheep or goats split evenly between the two locations. Development and piloting a questionnaire to assess PPRV risk factors such as vaccination practices, livestock movement and PPRV control measures will be part of the study. Laboratory analysis will be limited to serological and molecular techniques and data analysis will include determination of PPRV antibody seroprevalence and risk factors for PPRV. ELISA and PPR will be conducted at NADDEC. Metabiota shall not pay for Ugandan government collaborators' time for activities completed as part of their normal job/position and role within their institution. Time shall not be paid to government collaborators for Phase One or Phase Two. Ugandan government collaborators can be compensated for time if they are included as trainers, pilot study project leads, and field technicians for Phase Three. AFENET is not a government organization. CDC will not be compensated for time related to this project. All other POCs listed above are Ugandan government collaborators.

Travel costs for Ugandan participants related to the training event and field studies should only include ground transport, lodging, and per diem costs for participants working a distance of greater than one hour travel time from their home, and any requested ground transport, lodging, or per diem payments shall be cleared with CBEP prior to making commitments to cover these costs. Local participants in the training and field work (living one hour or less from the location of their work that day) will not have travel, lodging, or per diem costs covered.

Phase Three deliverables: Pilot studies implemented; PCR and ELISA results provided to CBEP; results and analyses developed into a pilot project summary of conclusions per project and provided to CBEP; and summary of conclusions provided to the Ugandan national authorities for disease surveillance and control.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

Phase 0: Proposal Development & Initiation (Task 1: March 7-9, 2016)

Metabiota developed a project plan and implementation strategy that aligns with narrative from Box 8. It is anticipated that the plan for TD-022 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as a Research and Data Analyst (RDA)) time to identify the optimal strategy, including required deliverables and other programmatic requirements, which may be a part of project implementation.

Key assumptions:

1. Metabiota received unofficial communication supporting an extension of its contract from May 16, 2016 to November 15, 2016, this technical response has been developed with the key assumption that this additional time will be allotted to this project
2. Metabiota assumes DTRA CBEP representatives will provide Metabiota with the concept notes referred to in Box 8 upon the approval of this TD.
3. Metabiota assumes that DTRA CBEP representatives involved in the development of this technical direction will be available for a kick-off meeting to discuss any associated historical engagement with the research collaborators and their respective needs and constraints.
4. Metabiota assumes changes to the budget (e.g., labor categories) will be acceptable to DTRA. An RDA was added to provide flexibility when implementing; however, this has not affected the overall project budget.
5. Metabiota assumes our response should align with narrative from Box 8, which does not align with the figures provided in Box 5.
6. Metabiota assumes that there will be a need to develop training materials during phase 3 part 1 in preparation for phase 3 part 2, and has incorporated the necessary LOE into this technical proposal.
7. Metabiota assumes participants to be engaged are not Ugandan government officials and therefore fall outside of the U.S. Ambassador's memo (8 April 2015) outlining compensation of Ugandan Government personnel.

Phase 1: Work Plan Development (Task 1: March 21-April 22, 2016)

The Metabiota PM and PC will coordinate with (b)(6) EVP Science Integration, including our regional partner network to identify the appropriate SMEs in grantsmanship, experimental design, and biosurveillance to develop and augment project work plans and training materials, and deliver a high quality and sustainable engagement in coordination with CBEP AFRICOM.

Upon approval of the TD, Metabiota will engage DTRA CBEP to ensure a mutual understanding of project goals and objectives is realized, as well as to obtain the concept notes referred to in Box 8. Metabiota will additionally engage with the eight Ugandan collaborators provided in Box 8 as well as other key stakeholders to obtain additional information such as possible existing work plans, research plans, and training materials for grantsmanship and standard operating procedures for related biosurveillance activities. The Metabiota PM, PC, and SMEs will participate in regular project communications with stakeholders to ensure mutual understanding of project goals, actions, and status.

Metabiota SMEs will conduct a review of the concept notes referred to in Box 8 to establish a baseline for outreach to the identified Ugandan stakeholders. Metabiota will then conduct a series of data calls with these Ugandan stakeholders in order for the SMEs familiarize themselves with the current capabilities and needs of the identified stakeholders, and to identify an appropriate path forward for the work plan. This work plan will identify a timeline of implementation and key milestones and goals for both the development of a detailed research plan (from which, Pilot training and design study will be extracted), as well as development of research proposals (ex. number of proposal submissions, drafts of white papers, etc.). The work plan will include activities providing grantsmanship support, mentorship, and subject matter expertise to key Ugandan stakeholders throughout proposal development, Pilot training and study design and verification, and proposal editing and submission process. Metabiota will submit the work plan draft(s) to DTRA CBEP for review and approval.

Phase 2: Research Plan and Proposal Development (Tasks 1, 4, April 25-June 24, 2016)

Metabiota SMEs will execute the work plan as approved by DTRA CBEP in Phase 1. In doing so, Metabiota will coordinate with the identified Ugandan stakeholders to support the development of a detailed research plan as well as research proposals for epidemiologic studies/bio-surveillance research of RVF, AI, and PPR based on the needs and research interests identified in Phase 1.

Metabiota SMEs will provide support to the Ugandan stakeholders to develop a comprehensive research plan, which will include a detailed list of materials and supplies needed to accomplish the research studies. Moreover, the research plan will include detailed SOPs planned for the collection of samples, including field, laboratory, and data analytics as well as identification of biosafety and biosecurity risks and associated mitigation methods. From this overarching research plan, the Metabiota SMEs and Ugandan stakeholders will develop up to three (3) pilot study plans to test the SOPs developed in the research proposals for their effectiveness and viability of project design. In doing so, the Metabiota SMEs will provide support, mentorship, and expertise in the development, strengthening, and tailoring of these research plans through the submission proves while the Ugandan stakeholders are expected to write and finalize these plans based on the guidance they are provided. Metabiota will submit the final research plan(s), research proposals (including financials) and proposed SOPs for DTRA CBEP's review and approval.

Phase 3, Part 1: Preparation and Coordination for In-country Training and Pilot Studies (Tasks 1, 3, 4: March 28-Aug 11, 2016)

Metabiota will coordinate with the Ugandan stakeholders to identify the most appropriate participants for both training and Pilot study activities. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured for the SMEs and FLNs as needed. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS via the DTRA CBEP Technical Point of Contact.

Metabiota will coordinate with the Ugandan Stakeholders to identify training needs as discussed in Phase 1 and further identified in Phase 2 SOP development. To meet these needs, Metabiota will reuse existing training materials and SOPs for applicable biosurveillance activities as much as possible. However, due to the limited information currently available regarding the intended pilot research plans, Metabiota expects to use SMEs to

adapt and develop training materials for effective delivery of training. Metabiota SMEs will develop new materials, which may including slide presentations, videos, etc. to effectively leverage the learning environment. Metabiota will also develop, as appropriate, pre-tests and post-tests for monitoring and evaluation purposes. Training materials, after development and adaptation, will be delivered to DTRA CBEP for technical review and Public Affairs Office approval.

Phase 3, Part 2: Conduction of In-country Training (Task 1, 3, 4: August 4-24, 2016)
Metabiota SMEs will execute a 10-day training activity for up to 20 participants who will be taking part in the three identified pilot studies followed by a 1-day pilot study coordination day with the pilot study leads. Metabiota anticipates a mix of lecture and hands-on training being necessary, however, Metabiota SMEs will adjust the training approach based on the Stakeholder feedback obtained in Phase 1. Metabiota SMEs will be available for virtual "office hours" and to answer written communications from participants as needed throughout the conduction of pilot studies. Metabiota SMEs will also conduct pre-/post- training testing and evaluations and provide feedback to the participants on their performance. FLNs will be used to facilitate training activities to the extent possible.

Phase 3 Part 3: Conduction of Pilot Studies (Task 1, 4, 6: August 18-Oct 26, 2016)
Metabiota SMEs will coordinate with the pilot study leads for the conduction of three pilot field studies, involving up to three pilot study leads and 11 technicians over a period of 8 weeks. Metabiota SMEs will be available for virtual "office hours" and to answer written communications from all participants as needed throughout the conduction of the pilot studies. Metabiota will provide management oversight and support for the conduction of these pilot studies, and will support the Ugandan collaborators in obtaining all required approvals for project continuation, including but not limited to ROB approvals. Metabiota will coordinate with all Stakeholders to identify the necessary materials required to conduct all pilot effort(s). Inclusive of this, Metabiota will provide any necessary support (SME or logistical) to in-country participants when navigating the procurement process. All materials will be identified and procured with sustainment in mind. Metabiota will submit pilot study summaries, including individual pilot study results, analyses, and conclusions as well as a summary of implementation conclusions to DTRA CBEP for communication to the Ugandan national authorities for disease surveillance and control.

Final Project Report
Metabiota PM, PC, and SMEs will all contribute inputs to a final report relaying all actions taken for project implementation through all phases, lessons learned, and identifying next step opportunities upon completion of all deliverables. Results of pre- and post- testing and evaluations from training will also be provided to DTRA CBEP.

Monitoring and Evaluation
In order to develop a comprehensive approach to continuous monitoring and evaluation of this project throughout implementation, Metabiota has developed a comprehensive monitoring and evaluation plan which can be found in the attached Appendix A (Supplemental Information) Part 5.

Risk Management.
In order to anticipate and overcome obstacles included (but not limited to) those listed in Risk Management Matrix found in the attached Supplemental Information Part 2, Metabiota has identified and captured the risks associated with implementing this activity, including contingency planning and course correction measures which will lead to overall regional risk reduction, as outlined in the attached Risk Management Matrix.

9b BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$111,755
1003	MATERIALS	$105,270
1004	ODCs	$3,680
1005	TRAVEL	$32,931

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES).

All phases:
Task 1 - Project Coordination: Metabiota will provide consistent and cohesive technical and administrative leadership, direction, program management, implementation oversight, and coordination of all project activities

Metabiota Program Manager (PM): The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of DTRA CBEP goals at the country and regional level in direct support of this activity and the DTRA CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the RDA to ensure all day-to-day activities for the project are completed on time, and to the quality required by DTRA CBEP

Metabiota Project Coordinator: The Metabiota RDA will act as a Project Coordinator (PC) throughout the planning and execution of project objectives. The PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will manage the SMEs and FLNs and lead coordination with the Ugandan Stakeholders, to include leading regular coordination calls with the project team and assist in participant coordination.

Note* - Metabiota recognizes that the RDA labor category was not included to Box 8 of this TD. Upon review of internal support (e.g., Project Coordinators) and to allow greater project implantation flexibility, Metabiota has proposed the use of an RDA instead of a SME 1 for all project coordination. Importantly, while hours have been added for project coordination, the overall cost for the Project Coordinator role remains unchanged between RDA and SME 1.

A key requirement to ensure effective program initiation, execution, and closeout is ensuring clear communication between all project stakeholders. To ensure the project in managed according to CBEP standards, the PM and PC will be responsible for the following:

Initiation and Program Integration: The PM, with PC support, developed the project proposal to include the project timeline, identification and integration of project requirements, deliverables, subcontractors, SMEs, and trainers to ensure project success. Upon acceptance of the proposal, the PM will hold a kick-off meeting with team members and partners to review the project plan and schedule, establish routine communication to support project implementation, initiate education on the contract requirements, and begin project implementation. Routine communication with all stakeholders will ensure that all deliverables, including required CDRLs, are met and submitted according to the project schedule and contract requirements.

The PM and PC will work closely with Ugandan POC's identified in Box 8 (Phase 1) to understand their respective vision for this effort, including the development of a work plan for implementing all identified activities. In addition, the PM and PC will coordinate communication between Ugandan POC's and the identified grantsmanship/BSV SME's (e.g., project team members) to ensure alignment of project plans with DTRA CBEP goals when developing the research project design and high-quality and competitive research proposal(s) (Phase 2). Lastly, the PM and PC will coordinate all aspects of training implementation (Phase 3), to include identification and appropriate engagement of FLNs, to include a Study Leads and Study Technicians, to support in-country training and BSV pilot studies (Phase 3) by interfacing regularly (see Communication Management) with project personnel to ensure that in-country and overall project objectives and requirements are met in full. The PM will ensure that FLNs are engaged according to contract and project requirements, and have the experience, background, and skills necessary to support training implementation. FLNs are budgeted at the AFRICOM FLN I rate.

The PM will ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include; overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Project Close out: The Metabiota PM and PC will oversee project closeout, to include completion of grant proposals, wrap-up of training, and finalization and submission of all identified deliverables, including final reports. The PM will also ensure the conclusion of subcontracts and other employment agreements.

Additional communication strategies and programmatic safeguards, including 1) Human Resources Management, 2) Communications Management, 3) Risk Management, 4) Schedule Management, 5) Cost Management, 6) Quality Management, and 7) Technical Resource Management can be found in Appendix A (Supplemental Information).

Task 3 – Qualified Trainers (QT): Metabiota will provide financial support to in-country Qualified Trainers (Phase Three, Parts One and Two) via subcontracts of independent consultant agreements with the yet to be identified trainers. Metabiota recognizes the importance of identifying Ugandan nationals to fill these roles in order to foster relationships and build regional capacity. Metabiota will work with all project stakeholders to identify the appropriate trainers. Currently, it is presumed that all qualified trainers will be billed at the AFRICOM FLN 1 rate.

Task 4 - Subject Matter Experts (SMEs). Metabiota will provide ongoing technical support and expertise through the use of SMEs, to include the development of 1) a work plan for implementing all identified activities, 2) project design, and 3) development of high-quality and competitive research proposal(s). Metabiota SMEs engaged for this effort will provide expertise and input on the development and revision of existing training materials, development and revision of SOPs, as well as mentoring of study participants in grantsmanship and BSV training activities. SMEs will predominately operate remotely throughout Phases 1, 2, and most of Phase 3 and will thus provide mentorship through regular written communication and video teleconferencing with project participants, as necessary. Importantly, the SMEs for this effort are Kenyan nationals and geographically situated in Nairobi, Kenya which will ease operating delays due to time zone differences. Moreover, the identified SMEs possess excellent operational knowledge of East Africa and capabilities in technical writing, biosurveillance techniques, and one health concepts related to infectious disease research. For Phase Three, Part Two, SMEs will implement the training efforts and will work in partnership with FLN project participants to administer the courses, provide QA/QC of all materials, engage trainees in capacity building and scientific discussions supporting training concepts and implementation, and assist in the development of a gap analysis report. SMEs on this effort will be performing the functions of both SMEs and Qualified Trainers (QTs). In line with government guidance, the SMEs will be billing at the SME I labor rate, which is the equivalent cost of QT I.

Metabiota will subcontract Africa Biomedical Laboratories (ABL; Nairobi, Kenya) for SME support of this effort. The use of regionally accessible, African Nationals helps to build regional capabilities and networks, and ensures overall project success.

Task 6 – Research Activity Projects: Metabiota will provide financial support to Study Leads and Study Technicians (Phase Three, Part Three) via subcontracts of independent consultant agreements with the yet to be identified participants. Metabiota will work with all project stakeholders to identify the appropriate project participants. It is currently presumed that all project participants will be billed at the AFRICOM FLN 1 rate.

Note* - Metabiota is aware of guidance provided by the US Ambassador to Uganda regarding salary support to Government of Uganda personnel. If the Trainers, Study Leads, or Study Technicians are direct employees of the Ugandan Government (e.g., Ministry of Health, Agriculture, Wildlife, etc.), Metabiota will adjust their engagement strategy to reflect the Ambassadors guidelines. The budget for this project will be impacted accordingly.

Reach back programmatic support to include finance, accounting, and contracts, will be provided as part of CLIN 1001 (FFP) and will not be separately invoiced.

Materials

As defined in Box 8 (Phase Three, Part Three) this activity shall include the procurement of materials and supplies required for the pilot studies, not to exceed $100,000. Metabiota will work with the Ugandan partners to identify the most sustainable, efficient, cost-effective way to procure materials and supplies for executing BSV pilot studies. The identification of sustainable supplies will be critical for continuing BSV-related activities, which will be described in greater detail within newly developed grant proposals (Phase Two). Any materials procured by Metabiota will be shipped via CLS. If materials can be secured and provided to the trainers/trainees locally or online, shipping will not be required. Additionally, Metabiota will work with SMEs based in Kenya to help identify sustainable and reliable vendors of biomedical supplies.

Given the nature of this effort (e.g., BSV), Metabiota anticipates the need to procure personal protective equipment such as Tyvek suits, gloves, goggles, booties, and N95 respirators, as well as consumables and other paraphernalia such as chlorine, plastic wash basins, buckets, disinfectant sprayers, and anti-fog spray will also be procured. A final list of materials required for this effort will be identified in coordination with all project stakeholders.

Following discussions with all project stakeholders, and if warranted, USB internet devices and internet access cards will be procured and provided to project participants in-country to ensure they have access to a stable internet connection during remote coordination and training sessions, which are included to all phases of this effort. USB internet devices will be procured and tested in-country to avoid shipping charges and to ensure they are operational on the ground. USB internet devices and access cards will be monitored by the FLNs to ensure they are used for project purposes only, and are maintained according to equipment/material guidelines for the duration of the course.

General office supplies will be procured to support in-country training activities and routine project needs for the execution of the training courses.

Office supplies will be procured locally and will include, but may not be limited to, pens, paper, thumb drives, binders, etc.

Metabiota will conduct market research and ensure the best value is secured, maintaining quality and technical requirements for all procurement of goods. Metabiota will coordinate directly with CLS and third-country vendors for all necessary shipping requirements, and will work closely with CLS and DTRO to ensure customs clearance requirements are met and goods delivered according to project timelines and CDRL requirements. Metabiota will ensure cost management for all procured supplies and will coordinate directly with CBEP and CLS to support additional requirements for the hands-on training events to include such items as printing of the developed and adapted training materials, training certificates for participants, and translation services, if needed.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project working abroad. DBA insurance will be applied for labor costs incurred overseas. DBA will be applied to the PM, SMEs/Trainers, FLNs, and other contractors, engaged on this effort, for the duration of the program. Metabiota maintains a blanket DBA policy for all personnel and will add the SMEs and FLNs, and other performers meeting DBA requirements, to this policy as they are engaged. A rate of 3.5% of their total compensation will be billed to the project on a monthly basis. A reconciliation of the total DBA will be performed prior to final invoicing to ensure accuracy of the charges, in accordance with total hours worked. Final invoicing will be adjusted, if necessary, to reflect the final DBA allocation numbers.

Subcontracts

Subcontracts will be issued to SMEs, FLNs, and/or their home organization(s) as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the labor or materials budgets.

Travel

Travel is requested to support the Program Manager, SME, and qualified Ugandan trainers to Kampala, Uganda to implement training efforts for project participants (Phase Three, Part Two). The travel budget represents the estimated amount required; travel on the AEP contract is cost reimbursable.

All Metabiota personnel slated to travel are current with regard to ISOPREP, SERE, and AT/FP trainings, as required by CBEP. Additionally, the SME's leveraged for this effort are Kenyan Nationals and therefore do not require the aforementioned travel trainings/documents.

Our travel budget assumes training will be held in Kampala over the course of two weeks, including one day before or after for in-person coordination, as described in Phase Three, Part Two of this proposal. If, through discussion with the Ugandan stakeholders, an alternative schedule is created or an alterative location is desired, travel costs may be impacted accordingly.

10. FUNDING AUTHORIZED THIS TD:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ _____

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ _____

12a. CURRENT PERIOD OF PERFORMANCE

21-Mar-2016 – 15-May-2016

12b. TD REV PERIOD OF PERFORMANCE

_____

13. CONTRACTOR SIGNATURE AND DATE

Signature (b)(6)

Date: 9 March 2016

14. REGION

AFRICOM/ Uganda

15. TECHNICAL POINTS OF CONTACT

AFRICOM Science Manager (b)(6)

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

Signature _____

Date: _____

Instructions:

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution for TD. Limit to __ pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Limit to __ pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cumulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Contracting Officer Approval: Sign & Date
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3. TD NUMBER
HDTRA1-14-C-0104	METABIOTA	22

4. TD TITLE	5. TOTAL TD ESTIMATE.
Uganda Biosurveillance and Grantsmanship Training	HOURS: 3,234 DOLLARS: $ 170,000.00

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)	PHONE: (b)(6) EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide grantsmanship training and subject matter expert (SME) assistance for the coordination of project design, research proposal development, and implementation of a pilot biosurveillance study in Uganda, in accordance with SOW section 4.4, 4.5 and 4.6, Tasks 4, 5 and 6.

Coordination of such efforts shall focus on the following topics: Ecological and bio-surveillance for Rift Valley fever (RVF) among domestic and wild animal populations in Uganda; Exploring the distribution and characteristics of avian influenza (AI) viruses in migratory waterfowl and poultry in Uganda; and Genetic and epidemiological insights into the occurrence of peste des petits ruminants virus (PPRV) among sheep, goats, cattle, and wildlife in northern Uganda.

The project design and research proposal(s) to be coordinated by Metabiota shall emphasize bio-surveillance of RVF, PPRV, and AI in Uganda and how the collection of this data would help enhance the surveillance capabilities of the country at the national level. It shall also include assistance in the development of standard operating procedures (SOPs) for the projects (e.g., biosafety/biosecurity, sample collection/handling/transport, laboratory analysis, data analysis) with the goal of enhancing local capabilities and developing the skills necessary for the early detection and prevalence determination of RVF, AI, and PPR. Metabiota will perform the following activities during the period of performance:

1. Phase One: Metabiota shall collaborate with CBEP's Ugandan research partners and coordinate with them to develop a work plan for implementation of all of the activities noted below, including project design (development of a research plan) and development of a high-quality, competitive research proposal or proposals (more details below). Metabiota should provide a PM and a SME1 to manage this coordination. The SME1 and PM should reach out directly to the POCs listed below to discuss their vision for the development of a research grant and to discuss additional SME support needed. Ugandan partners on this project are SMEs in various areas and their skills/expertise should be leveraged in accomplishing the goals of this project. The Metabiota PM and SME1 should also review the concept notes already developed by the collaborators that describe their research interests. The SME1 hours required for this should not exceed 25 hours total for maximum 3-5 weeks of coordination. PM oversight should not exceed 25 hours total for this phase.

   Ugandan collaborators should include personnel from the following institutions/organizations:
   a. The National Animal Disease Diagnostics and Epidemiology Centre (NADDEC). POC (b)(6)
   b. The National Livestock Resources Research Institute (NaLIRRI). POC (b)(6)
   c. The African Field Epidemiology Network (AFENET). POC (b)(6)
   d. The Ministry of Health, Division of Veterinary Public Health (MoH-DVPH). POC (b)(6)
   e. The Uganda Wildlife Authority. POC (b)(6)
   f. CDC- POC (b)(6)
   g. The Ministry of Health, Uganda Virus Research Institute (MoH-UVRI). (b)(6)
   h. Ministry of Agriculture, Animal Industry and Fisheries (MAAIF). (b)(6)

   Phase One deliverables: Work plan with project design and timeline with clear roles and responsibilities

2. Phase Two: Metabiota shall assist the collaborators identified in Phase 1 with the development of a detailed research plan (experimental design) and research proposal(s), including budget, for epidemiologic studies/bio-surveillance research of RVF, AI, and PPR in Uganda based on the needs and research interests of the identified collaborators. These needs are already described in three concept notes developed by the Ugandan collaborators. The determination of whether one joint proposal or separate proposals will be developed will be made in partnership with Ugandan collaborators. The research plan shall include comprehensive descriptions of the hypothesis and research questions; development of a list of materials

and supplies to accomplish the research studies; and SOPs planned for the collection of samples, including field, laboratory, and data analytics, as well as a discussion of biosafety and biosecurity risks and mitigations (e.g. infectious sample transport and handling). CBEP expectation is for Metabiota to provide the collaborators with SME support (Metabiota and Ugandan SMEs) to inform the development of the proposal(s) that the Ugandan collaborators will write. Metabiota is not expected to write the grant proposal, but to provide oversight regarding the development of hypotheses, research design, and the research proposal writing process. The concept notes are well-developed, but will need to be strengthened to provide additional detail on sample size calculations, sample analysis procedures, data analysis methods, and other specifics to make them competitive research proposals. Metabiota should support the Ugandan collaborators in exploring potential funding options, not only DTRA, and assist them in tailoring their proposal(s) to specific funding opportunities.

To complete this task, Metabiota should provide up to 3 SMEs, including 1-2 from Metabiota and one Ugandan non-governmental SME (i.e. AFENET). Each SME should spend no more than 60 hours total over a maximum of 6 weeks to provide input/feedback and grantsmanship expertise to the research plan (experimental design) and the research proposal(s) developed by the Ugandan collaborators. PM oversight of the SMEs' review and coordination of activities should not exceed 30 hours total for Phase Two.

Phase Two deliverables: Project proposal(s) with budgets and SOPs

3. Phase Three: After completion of activities described in Phase 2, Metabiota shall also provide technical expertise to train stakeholders and work with them to conduct small pilot studies in Uganda to test the SOPs developed for the larger surveillance studies in the proposal(s) to determine their effectiveness and the viability of the project design on a smaller scale. Metabiota shall provide no more than 5 medium-level trainers to assist in the pilot studies. Trainers may be a mix of Metabiota and Ugandan trainers or mostly/all Ugandan trainers, which would be viewed as a strong approach to enhance sustainability of CBEP's investment. The training should consist of one in-country activity as well as continued coordination via email, phone, webinar, or a similar lower-cost communication/coordination mechanism throughout the pilot study period.

   Phase Three, Part One: Preparation and coordination in advance of the in-country training and pilot studies should take no more than 6 weeks, and may begin during Phase Two to maximize efficiency, especially for the definition of the scope and timelines for the pilot studies and the procurement of materials needed for the pilot studies. Coordination will be between Metabiota and all the POCs listed above, as well as identified SMEs/trainers, if different from the above. Training materials should be discussed and obtained during this phase. The training materials will be developed from the project proposal and SOP documents, existing training materials owned/obtained by the Ugandan collaborators, and additional supplemental material as needed. If Metabiota and Ugandan collaborators agree that some necessary training materials do not already exist and need to be developed, the team may work together to augment existing materials. A PM, SME1, and a maximum of 5 medium-level trainers would be an appropriate mix to accomplish the efforts in this phase. Trainers should have expertise in the Ugandan public health, veterinary, and wildlife systems as well as local research methods and processes. Not all people need to participate in all tasks at all times during this planning and coordination, and resources should be conserved to include only the necessary individuals at each step. SME1 hours during Phase Three, Part One should not exceed 40 hours; 55 hours if training materials need to be developed. Hours per trainer for preparation and coordination should not exceed 10 hours; 25 hours if they need to participate in development of training materials. PM hours dedicated to oversight of this planning and preparation should not exceed 30 hours.

   Phase Three, Part Two: The in-country training shall be conducted over a period of 10 working days (5 days per week for 2 separate weeks and should include no more than 20 trainees, to be identified by the Ugandan collaborators, across the 3 pilot studies). The training may be conducted as one comprehensive event, providing overarching skills, knowledge and guidance in a way that it will benefit all three projects; or it may be divided into sections for more focused training on the individual projects; or it may be a combination, with some parts together and some break-out or working group sessions that are more specific. Metabiota should collaborate with the Ugandan POCs and trainers to determine the best approach. The PM, SME1 and trainers' time should not exceed 10 hours per day of training. One day before or after the training for in-person coordination for the pilot studies would be appropriate and should not exceed 8 hours of labor each for the PM, SME1, trainers, and pilot study project leads. It would be acceptable for the trainers and pilot study project leads to be the same people in some cases, as appropriate. PM level of effort should be less than the SME1 given oversight vs. implementation role.

   Phase Three, Part Three: Metabiota will provide management oversight and support to the Ugandan partners in implementation of three pilot field studies. The Ugandan collaborators are in the process of receiving appropriate permits and sample collection can only commence following DTRA Research Oversight Board (ROB) approvals. This activity shall include the procurement of materials and supplies required for the pilot studies, not to exceed $100,000. Metabiota shall work with the Ugandan partners to identify the most efficient, cost-effective way to

procure materials and supplies. Pilot study project leads and field technicians' level of effort should not exceed 680 hours over 8 weeks for pilot study implementation and oversight. There should be no more than 3 pilot study project leads and 11 technicians total supported by Metabiota for all three pilot studies. PM and SME1 hours dedicated to pilot study implementation guidance and oversight should not exceed 60 hours over 8 weeks. PM level of effort should be less than the SME1 given oversight vs. technical SME support role.

The following information and study objectives are provided for reference for proposal development (longer term objectives) and pilot study design/implementation (shorter term objectives). The concept notes developed by the Ugandan collaborators are attached for more detail. The pilot studies should focus on validating the SOPs developed as part of the longer-term study design and proposal development in Phase 2, and on conducting sample collection, lab analysis, and data analysis on a small subset of the various animal populations noted below.

Study 1 - The portion of the project regarding ecological and biosurveillance for Rift Valley Fever (RVF) among domestic and wild animal populations In Uganda shall address the following objectives:

a. Determine the inter-epidemic seroprevalence of RVF in a sample population of relevant domestic animals and wildlife in study areas with clearly identified serotypes. Training in this area should establish better methods for the biosurveillance of epizootic and zoonotic diseases in Uganda.
b. Create/improve contingency plans for RVF outbreaks ready for implementation at the central and local district levels through collaboration with a Ugandan government representative specializing in disease prevention and control as well as outbreak containment in Uganda.

Study 2 - The portion of the project focused on exploring the distribution and characteristics of avian influenza viruses (AIVs) in migratory waterfowl and poultry in Uganda shall include these specific objectives:

a. Establish temporal and spatial distribution and prevalence of AIVs in a sample population of waterfowl and domestic poultry in Uganda.

Study 3 - The portion of the project regarding the genetic and epidemiological insights into the occurrence of peste des petits ruminants virus (PPRV) among sheep, goats, and cattle in northern Uganda shall include these objectives:

a. Determine the prevalence of PPRV in wild animal species in the Kidepo Valley National Park and in goats, sheep, and cattle in Nakapiripirit district of Uganda.
b. Use of RT-PCR to detect the presence of PPRV and competitive ELISA to determine the presence of specific PPRV antibodies.
c. Development of a questionnaire to obtain data on existing control measures, livestock movement patterns, PPRV vaccination practices and prevalence, and other relevant epidemiological and surveillance factors.

For the pilot studies, an appropriate scope would include the following:

Study 1 - Pilot study will include no more than 1,000 serum samples collected from 768 domestic animals (cattle, sheep and goat) and 232 wild animal ruminant and porcine species. Laboratory analysis will be limited to serology (ELISA). Data analysis will include determination of RVF antibody seroprevalence. ELISA will be conducted at the CDC lab at UVRI with participation as appropriate by relevant project collaborators.

Study 2 - Pilot study will include no more than 1,000 serum samples collected from two distinct locations with measurably high levels of interface between the wild birds, domestic poultry, and humans. Samples should be collected from approximately 590 domestic poultry and 410 wild poultry, split evenly between both locations. Laboratory analysis will be limited to ELISA for Influenza A viruses and PCR-based molecular analyses, both to be conducted at NADDEC.

Study 3 - Pilot study will include no more than 1,000 serum samples collected each from two distinct locations. The samples should be from approximately 232 cattle and 768 sheep or goats split evenly between the two locations. Development and piloting a questionnaire to assess PPRV risk factors such as vaccination practices, livestock movement and PPRV control measures will be part of the study. Laboratory analysis will be limited to serological and molecular techniques and data analysis will include determination of PPRV antibody seroprevalence and risk factors for PPRV. ELISA and PPR will be conducted at NADDEC. Metabiota shall not pay for Ugandan government collaborators' time for activities completed as part of their normal job/position and role within their institution. Time shall not be paid to government collaborators for Phase One or Phase Two. Ugandan government collaborators can be compensated for time if they are included as trainers, pilot study project leads, and field technicians for Phase Three. AFENET is not a government organization. CDC will not be compensated for time related to this project. All other POCs listed above are Ugandan government collaborators.

Travel costs for Ugandan participants related to the training event and field studies should only include ground transport, lodging, and per diem costs for participants working a distance of greater than one hour travel time from their home, and any requested ground transport, lodging, or per diem payments shall be cleared with CBEP prior to making commitments to cover these costs. Local participants in the training and field work (living one hour or less from the location of their work that day) will not have travel, lodging, or per diem costs covered.

Phase Three deliverables: Pilot studies implemented; PCR and ELISA results provided to CBEP; results and analyses developed into a pilot project summary of conclusions per project and provided to CBEP; and summary of conclusions provided to the Ugandan national authorities for disease surveillance and control.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

Phase 0: Proposal Development & Initiation (Task 1: March 7-9, 2016)

Metabiota developed a project plan and implementation strategy that aligns with narrative from Box 8. It is anticipated that the plan for TD-022 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as a Research and Data Analyst (RDA)) time to identify the optimal strategy, including required deliverables and other programmatic requirements, which may be a part of project implementation.

The Metabiota PM and PC coordinated with (b)(6) Metabiota's Executive Vice President (EVP) in charge of Science Integration and communication with our regional scientific networks to identify the appropriate SMEs in grantsmanship, experimental design, and biosurveillance to develop and augment project work plans and training materials. Ultimately, this measure was taken to ensure our technical and cost solutions were of the highest quality and sustainable, respectively.

Key assumptions:

1. Metabiota received unofficial communication supporting an extension of its contract from May 16, 2016 to November 15, 2016, this technical response has been developed with the key assumption that this additional time will be allotted to this project.
2. Metabiota assumes DTRA CBEP representatives will provide Metabiota with the concept notes referred to in Box 8 upon the approval of this TD.
3. Metabiota assumes that DTRA CBEP representatives involved in the development of this technical direction will be available for a kick-off meeting to discuss any associated historical engagement with the research collaborators and their respective needs and constraints.
4. Metabiota assumes changes to the budget (e.g., labor categories) will be acceptable to DTRA. An RDA was added to provide flexibility when implementing; however, this has not affected the overall project budget.
5. Metabiota assumes our response should align with narrative from Box 8, which does not align with the figures provided in Box 5.
6. Metabiota assumes that there will be a need to develop training materials during phase 3 part 1 in preparation for phase 3 part 2, and has incorporated the necessary LOE into this technical proposal.
7. Metabiota recognizes guidelines regarding compensation of Ugandan government personnel, as outlined in the Ambassador's memo (8 April 2015). Metabiota has developed a basis of estimate that plans for the highest cost scenario (e.g., no Ugandan government personnel). Upon receiving names and affiliations of all project participants, Metabiota will work with DTRA CBEP to adjust the basis of estimate accordingly.

Phase 1: Work Plan Development (Task 1: March 21-April 22, 2016)

Upon approval of the TD, Metabiota will engage DTRA CBEP to ensure a mutual understanding of project goals and objectives is realized, as well as to obtain the concept notes referred to in Box 8. Metabiota will additionally engage with the eight Ugandan collaborators provided in Box 8 as well as other key stakeholders to obtain additional information such as possible existing work plans, research plans, and training materials for grantsmanship and standard operating procedures for related biosurveillance activities. The Metabiota PM, PC, and SMEs will participate in regular project communications with stakeholders to ensure mutual understanding of project goals, actions, and status.

Metabiota SMEs will conduct a review of the concept notes referred to in Box 8 to establish a baseline for outreach to the identified Ugandan stakeholders. Metabiota will then conduct a series of data calls with these Ugandan stakeholders in order for the SMEs familiarize themselves with the current capabilities and needs of the identified stakeholders, and to identify an appropriate path forward for the work plan. This work plan will identify a timeline of implementation and key milestones and goals for both the development of a detailed research plan (from which, Pilot training and design study will be extracted), as well as development of research proposals (ex. number of proposal submissions, drafts of white papers, etc.). The work plan will include activities providing grantsmanship support, mentorship, and subject matter expertise to key Ugandan stakeholders throughout proposal development, Pilot training and study design and verification, and proposal editing and submission process. Metabiota will submit the work plan draft(s) to DTRA CBEP for review and approval.

Phase 2. Research Plan and Proposal Development (Tasks 1, 4. April 25-June 24, 2016)

Metabiota SMEs will execute the work plan as approved by DTRA CBEP in Phase 1. In doing so, Metabiota will coordinate with the identified Ugandan stakeholders to support the development of a detailed research plan as well as research proposals for epidemiologic studies/bio-surveillance research of RVF, AI, and PPR based on the needs and research interests identified in Phase 1.

Metabiota SMEs will provide support to the Ugandan stakeholders to develop a comprehensive research plan, which will include a detailed list of materials and supplies needed to accomplish the research studies. Moreover, the research plan will include detailed SOPs planned for the collection of samples, including field, laboratory, and data analytics as well as identification of biosafety and biosecurity risks and associated mitigation methods. From this overarching research plan, the Metabiota SMEs and Ugandan stakeholders will develop up to three (3) pilot study plans to test the SOPs developed in the research proposals for their effectiveness and viability of project design. In doing so, the Metabiota SMEs will provide support, mentorship, and expertise in the development, strengthening, and tailoring of these research plans through the submission proves while the Ugandan stakeholders are expected to write and finalize these plans based on the guidance they are provided. Metabiota will submit the final research plan(s), research proposals (including financials) and proposed SOPs for DTRA CBEP's review and approval.

Phase 3, Part 1: Preparation and Coordination for In-country Training and Pilot Studies (Tasks 1, 3, 4: March 28-Aug 11, 2016)

Metabiota will coordinate with the Ugandan stakeholders to identify the most appropriate participants for both training and Pilot study activities. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured for the SMEs and FLNs as needed. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS via the DTRA CBEP Technical Point of Contact.

Metabiota will coordinate with the Ugandan Stakeholders to identify training needs as discussed in Phase 1 and further identified in Phase 2 SOP development. To meet these needs, Metabiota will reuse existing training materials and SOPs for applicable biosurveillance activities as much as possible. However, due to the limited information currently available regarding the intended pilot research plans, Metabiota expects to use SMEs to adapt and develop training materials for effective delivery of training. Metabiota SMEs will develop new materials, which may including slide presentations, videos, etc. to effectively leverage the learning environment. Metabiota will also develop, as appropriate, pre-tests and post-tests for monitoring and evaluation purposes. Training materials, after development and adaptation, will be delivered to DTRA CBEP for technical review and Public Affairs Office approval.

Phase 3, Part 2: Conduction of In-country Training (Task 1, 3, 4: August 4-24, 2016)
Metabiota SMEs will execute a 10-day training activity for up to 20 participants who will be taking part in the three identified pilot studies followed by a 1-day pilot study coordination day with the pilot study leads. Metabiota anticipates a mix of lecture and hands-on training being necessary, however, Metabiota SMEs will adjust the training approach based on the Stakeholder feedback obtained in Phase 1. Metabiota SMEs will be available for virtual "office hours" and to answer written communications from participants as needed throughout the conduction of pilot studies. Metabiota SMEs will also conduct pre-/post- training testing and evaluations and provide feedback to the participants on their performance. FLNs will be used to facilitate training activities to the extent possible.

Phase 3 Part 3: Conduction of Pilot Studies (Task 1, 4, 6: August 18-Oct 26, 2016)
Metabiota SMEs will coordinate with the pilot study leads for the conduction of three pilot field studies, involving up to three pilot study leads and 11 technicians over a period of 8 weeks. Metabiota SMEs will be available for virtual "office hours" and to answer written communications from all participants as needed throughout the conduction of the pilot studies. Metabiota will provide management oversight and support for the conduction of these pilot studies, and will support the Ugandan collaborators in obtaining all required approvals for project continuation, including but not limited to ROB approvals. Metabiota will coordinate with all Stakeholders to identify the necessary materials required to conduct all pilot effort(s). Inclusive of this, Metabiota will provide any necessary support (SME or logistical) to in-country participants when navigating the procurement process. All materials will be identified and procured with sustainment in mind. Metabiota will submit pilot study summaries, including individual pilot study results, analyses, and conclusions as well as a summary of implementation conclusions to DTRA CBEP for communication to the Ugandan national authorities for disease surveillance and control.

Final Project Report
Metabiota PM, PC, and SMEs will all contribute inputs to a final report relaying all actions taken for project implementation through all phases, lessons learned, and identifying next step opportunities upon completion of all deliverables. Results of pre- and post- testing and evaluations from training will also be provided to DTRA CBEP.

Monitoring and Evaluation
In order to develop a comprehensive approach to continuous monitoring and evaluation of this project throughout implementation, Metabiota has developed a comprehensive monitoring and evaluation plan which can be found in the attached Appendix A (Supplemental Information) Part 5.

Risk Management.
In order to anticipate and overcome obstacles included (but not limited to) those listed in Risk Management Matrix found in the attached Supplemental Information Part 2, Metabiota has identified and captured the risks associated with implementing this activity, including contingency planning and course correction measures which will lead to overall regional risk reduction, as outlined in the attached Risk Management Matrix.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$111,755
1003	MATERIALS	$105,270
1004	ODCs	$3,600
1005	TRAVEL	$32,931

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES).

All phases:
Task 1 - Project Coordination: Metabiota will provide consistent and cohesive technical and administrative leadership, direction, program management, implementation oversight, and coordination of all project activities.

Metabiota Program Manager (PM): The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of DTRA CBEP goals at the country and regional level in direct support of this activity and the DTRA CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the RDA to ensure all day-to-day activities for the project are completed on time, and to the quality required by DTRA CBEP.

Metabiota Project Coordinator: The Metabiota RDA will act as a Project Coordinator (PC) throughout the planning and execution of project objectives. The PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will manage the SMEs and FLNs and lead coordination with the Ugandan Stakeholders, to include leading regular coordination calls with the project team and assist in participant coordination

Note* - Metabiota recognizes that the RDA labor category was not included to Box 8 of this TD. Upon review of internal support (e.g., Project Coordinators) and to allow greater project implantation flexibility, Metabiota has proposed the use of an RDA instead of a SME 1 for all project coordination. Importantly, while hours have been added for project coordination, the overall cost for the Project Coordinator role remains unchanged between RDA and SME 1.

A key requirement to ensure effective program initiation, execution, and closeout is ensuring clear communication between all project stakeholders. To ensure the project in managed according to CBEP standards, the PM and PC will be responsible for the following:

Initiation and Program Integration: The PM, with PC support, developed the project proposal to include the project timeline, identification and integration of project requirements, deliverables, subcontractors, SMEs, and trainers to ensure project success. Upon acceptance of the proposal, the

PM will hold a kick-off meeting with team members and partners to review the project plan and schedule, establish routine communication to support project implementation, initiate education on the contract requirements, and begin project implementation. Routine communication with all stakeholders will ensure that all deliverables, including required CDRLs, are met and submitted according to the project schedule and contract requirements.

The PM and PC will work closely with Ugandan POC's identified in Box 8 (Phase 1) to understand their respective vision for this effort, including the development of a work plan for implementing all identified activities. In addition, the PM and PC will coordinate communication between Ugandan POC's and the identified grantsmanship/BSV SME's (e.g., project team members) to ensure alignment of project plans with DTRA CBEP goals when developing the research project design and high-quality and competitive research proposal(s) (Phase 2). Lastly, the PM and PC will coordinate all aspects of training implementation (Phase 3), to include identification and appropriate engagement of FLNs, to include a Study Leads and Study Technicians, to support in-country training and BSV pilot studies (Phase 3) by interfacing regularly (see Communication Management) with project personnel to ensure that in-country and overall project objectives and requirements are met in full. The PM will ensure that FLNs are engaged according to contract and project requirements, and have the experience, background, and skills necessary to support training implementation. FLNs are budgeted at the AFRICOM FLN I rate.

The PM will ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include; overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Project Close out: The Metabiota PM and PC will oversee project closeout, to include completion of grant proposals, wrap-up of training, and finalization and submission of all identified deliverables, including final reports. The PM will also ensure the conclusion of subcontracts and other employment agreements.

Additional communication strategies and programmatic safeguards, including 1) Human Resources Management, 2) Communications Management, 3) Risk Management, 4) Schedule Management, 5) Cost Management, 6) Quality Management, and 7) Technical Resource Management can be found in Appendix A (Supplemental Information).

Task 3 – Qualified Trainers (QT): Metabiota will provide financial support to in-country Qualified Trainers (Phase Three, Parts One and Two) via subcontracts of independent consultant agreements with the yet to be identified trainers. Metabiota recognizes the importance of identifying Ugandan nationals to fill these roles in order to foster relationships and build regional capacity. Metabiota will work with all project stakeholders to identify the appropriate trainers. Currently, it is presumed that all qualified trainers will be billed at the AFRICOM FLN 1 rate.

Task 4 - Subject Matter Experts (SMEs). Metabiota will provide ongoing technical support and expertise through the use of SMEs, to include the development of 1) a work plan for implementing all identified activities, 2) project design, and 3) development of high-quality and competitive research proposal(s). Metabiota SMEs engaged for this effort will provide expertise and input on the development and revision of existing training materials, development and revision of SOPs, as well as mentoring of study participants in grantsmanship and BSV training activities. SMEs will predominately operate remotely throughout Phases 1, 2, and most of Phase 3 and will thus provide mentorship through regular written communication and video teleconferencing with project participants, as necessary. Importantly, the SMEs for this effort are Kenyan nationals and geographically situated in Nairobi, Kenya which will ease operating delays due to time zone differences. Moreover, the identified SMEs possess excellent operational knowledge of East Africa and capabilities in technical writing, biosurveillance techniques, and one health concepts related to infectious disease research. For Phase Three, Part Two, SMEs will implement the training efforts and will work in partnership with FLN project participants to administer the courses, provide QA/QC of all materials, engage trainees in capacity building and scientific discussions supporting training concepts and implementation, and assist in the development of a gap analysis report. SMEs on this effort will be performing the functions of both SMEs and Qualified Trainers (QTs). In line with government guidance, the SMEs will be billing at the SME I labor rate, which is the equivalent cost of QT I.

Metabiota will subcontract Africa Biomedical Laboratories (ABL; Nairobi, Kenya) for SME support of this effort. The use of regionally accessible, African Nationals helps to build regional capabilities and networks, and ensures overall project success.

Task 6 – Research Activity Projects. Metabiota will provide financial support to Study Leads and Study Technicians (Phase Three, Part Three) via subcontracts of independent consultant agreements with the yet to be identified participants. Metabiota will work with all project stakeholders to identify the appropriate project participants. It is currently presumed that all project participants will be billed at the AFRICOM FLN 1 rate.

Note* - Metabiota is aware of guidance provided by the US Ambassador to Uganda regarding salary support to Government of Uganda personnel. If the Trainers, Study Leads, or Study Technicians are direct employees of the Ugandan Government (e.g., Ministry of Health, Agriculture, Wildlife, etc.), Metabiota will adjust their engagement strategy to reflect the Ambassadors guidelines. The budget for this project will be impacted accordingly.

Reach back programmatic support to include finance, accounting, and contracts, will be provided as part of CLIN 1001 (FFP) and will not be separately invoiced.

Materials

As defined in Box 8 (Phase Three, Part Three) this activity shall include the procurement of materials and supplies required for the pilot studies, not to exceed $100,000. Metabiota will work with the Ugandan partners to identify the most sustainable, efficient, cost-effective way to procure materials and supplies for executing BSV pilot studies. The identification of sustainable supplies will be critical for continuing BSV-related activities, which will be described in greater detail within newly developed grant proposals (Phase Two). Any materials procured by Metabiota will be shipped via CLS. If materials can be secured and provided to the trainers/trainees locally or online, shipping will not be required. Additionally, Metabiota will work with SMEs based in Kenya to help identify sustainable and reliable vendors of biomedical supplies.

Given the nature of this effort (e.g., BSV), Metabiota anticipates the need to procure personal protective equipment such as Tyvek suits, gloves, goggles, booties, and N95 respirators, as well as consumables and other paraphernalia such as chlorine, plastic wash basins, buckets, disinfectant sprayers, and anti-fog spray will also be procured. A final list of materials required for this effort will be identified in coordination with all project stakeholders.

Following discussions with all project stakeholders, and if warranted, USB internet devices and internet access cards will be procured and provided to project participants in-country to ensure they have access to a stable internet connection during remote coordination and training sessions, which are included to all phases of this effort. USB internet devices will be procured and tested in-country to avoid shipping charges and to ensure they are

operational on the ground. USB internet devices and access cards will be monitored by the FLNs to ensure they are used for project purposes only, and are maintained according to equipment/material guidelines for the duration of the course.

General office supplies will be procured to support in-country training activities and routine project needs for the execution of the training courses. Office supplies will be procured locally and will include, but may not be limited to, pens, paper, thumb drives, binders, etc.

Metabiota will conduct market research and ensure the best value is secured, maintaining quality and technical requirements for all procurement of goods. Metabiota will coordinate directly with CLS and third-country vendors for all necessary shipping requirements, and will work closely with CLS and DTRO to ensure customs clearance requirements are met and goods delivered according to project timelines and CDRL requirements. Metabiota will ensure cost management for all procured supplies and will coordinate directly with CBEP and CLS to support additional requirements for the hands-on training events to include such items as printing of the developed and adapted training materials, training certificates for participants, and translation services, if needed.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project working abroad. DBA insurance will be applied for labor costs incurred overseas. DBA will be applied to the PM, SMEs/Trainers, FLNs, and other contractors, engaged on this effort, for the duration of the program. Metabiota maintains a blanket DBA policy for all personnel and will add the SMEs and FLNs, and other performers meeting DBA requirements, to this policy as they are engaged. A(b)(6) tal compensation will be billed to the project on a monthly basis. A reconciliation of the total DBA will be performed prior to final invoicing to ensure accuracy of the charges, in accordance with total hours worked. Final invoicing will be adjusted, if necessary, to reflect the final DBA allocation numbers.

Subcontracts

Subcontracts will be issued to SMEs, FLNs, and/or their home organization(s) as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the labor or materials budgets.

Travel

Travel is requested to support the Program Manager, SME, and qualified Ugandan trainers to Kampala, Uganda to implement training efforts for project participants (Phase Three, Part Two). The travel budget represents the estimated amount required; travel on the AEP contract is cost reimbursable.

All Metabiota personnel slated to travel are current with regard to ISOPREP, SERE, and AT/FP trainings, as required by CBEP. Additionally, the SME's leveraged for this effort are Kenyan Nationals and therefore do not require the aforementioned travel trainings/documents.

Our travel budget assumes training will be held in Kampala over the course of two weeks, including one day before or after for in-person coordination, as described in Phase Three, Part Two of this proposal. If, through discussion with the Ugandan stakeholders, an alternative schedule is created or an alterative location is desired, travel costs may be impacted accordingly.

10. FUNDING AUTHORIZED THIS TD:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ _____

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ _____

12a. CURRENT PERIOD OF PERFORMANCE

21-Mar-2016 – 15-May-2016

12b. TO REV PERIOD OF PERFORMANCE

_____

13. CONTRACTO[redacted]RE AND DATE

(b)(6)

Signatu _____

Date: **21 March 2016**

14. REGION

AFRICOM/ Uganda

15. TECHNICAL POINTS OF CONTACT

AFRICOM Science Manager: (b)(6)

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

Signature _____

Date: _____

Instructions:

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution for TD. Limit to __ pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Limit to __ pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cumulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Contracting Officer Approval: Sign & Date
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	23	

4. TD TITLE	5. TOTAL TD ESTIMATE:
South Africa One Health Epidemiology Short Course Curriculum Updates and Edits	HOURS: **700** DOLLARS: $ **110,000**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to implement revisions (identified in TD-10) to the Walter Reed Army Institute of Research (WRAIR) Epidemiology Short Course curriculum as this material will be transformed into an adapted One Health Epidemiology Short Course, tailored for South Africa in accordance with SOW, Section 4.4, Task 1, 3, and 4.

In a follow-on to TD-10, where the Metabiota team identified the edits and revisions necessary to update the WRAIR Epidemiology short course, TD-23 requests Metabiota to now execute those edits and revisions and develop a comprehensive One Health Epidemiology (OHE) short course. The short course is intended for health professionals in South Africa who require knowledge of OHE, but are not able or eligible to be part of the Centers for Disease Control and Prevention's Field Epidemiology Training Program (FETP). The short course shall include a One Health introductory module with two tracks – (1) One basic level track for professionals who are completely new to the OHE concept and need comprehensive tutorials on basic skills, and (2) One advanced level track for professionals who are more knowledgeable about OHE but require more in-depth training. Each track shall have two disease case studies involving zoonotic diseases of security concern which directly affect South Africa. Both the basic level and advanced tracks shall touch upon the same two diseases, but at different levels of detail appropriate for the intended track participants. Metabiota shall propose the two most appropriate zoonotic diseases based on relevance to South African partners and the region, and alignment with the needs identified in the Landscape Analysis conducted by Metabiota under TD-10 during the February 2016 interviews of stakeholders in Pretoria and Johannesburg. Thorough justification for the two suggested diseases shall be included in the proposal in response to this TD. DTRA CBEP will ultimately determine the two diseases to be included. The updated OHE short course curriculum shall include all of the identified changes from the Landscape Analysis. Over 1305 business hours, it is assumed that it will take 0.15 FTE of an SME II and 0.1 FTE of a Trainer I to adapt the curriculum.

In addition to updating the OHE short course curriculum, Metabiota shall develop a Train the Trainer (ToT) module to be delivered to the selected South African trainers of the OHE short course. The ToT module shall be able to be conducted over a 2-3 day ToT session. This TD does not include implementation or delivery of the ToT module or either OHE short course track and is for the development of materials only. Over 1305 business hours, it is assumed that it will take 0.1 FTE of an SME II and 0.15 FTE of a Trainer I to adapt the curriculum.

The final deliverable (CDRL A003) is the complete and updated short course curriculum, which is comprised of the basic level track, the advanced level track, and the ToT module. Metabiota shall conduct an in-person review of the curriculum and the status of updates twice – once at 30% complete (CDRL A001), and again at 60% complete (CDRL A002). These in-person reviews will provide DTRA CBEP with the ability to review the status of the curriculum updates and make comments or requests to shape the direction of the updates. DTRA CBEP will give Metabiota its comments no sooner than 2 weeks (10 business days) after the in-person review.

Throughout the curriculum update process, Metabiota shall continue coordinating with DTRA CBEP's South Africa engagement Country Manager on a weekly basis. Metabiota shall continue to coordinate with CDC-South Africa, the United States Department of Agriculture, and South African stakeholders on an as-needed basis via electronic and phone communications. No travel shall be required.

The period of performance for this effort will be from 3/21/16 to 5/15/16. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $110,000 is requested by 3/15/16. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES)

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TO REV:

$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $0

12a. CURRENT PERIOD OF PERFORMANCE

21-Mar-2016 – 15-May-2016

12b. TO REV PERIOD OF PERFORMANCE

DD MMM YYYY DD MMM YYYY

13. CONTRACTOR SIGNATURE AND DATE

Signature:_____

Date:_____

14. REGION

AFRICOM / South Africa

15. TECHNICAL POINTS OF CONTACT

(b)(6) South Africa Country Manager,

(b)(6)

(b)(6) AFRICOM Science Manager

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X _____

(b)(6)

COR / J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact Details
8. Description of the Technical Directive Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
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8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA. 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a TD NUMBER	3b REV
HDTRA1-14-C-0104	METABIOTA	024	B

4. TD TITLE
Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East and South Asia

5. TOTAL TO ESTIMATE
HOURS _____ DOLLARS $ $2,000

6. CONTRACTING OFFICER REPRESENTATIVE
NAME (b)(6)
PHONE (b)(6) EMAIL (b)(6)

7. CONTRACTOR POC
NAME (b)(6)
PHONE (b)(6) EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

This revision extends the Period of Performance (PoP) for TD-024 from 30 June 2016 to 31 July 2015. This PoP extension is to provide enough time to continue developing a Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East, South Asia and CBEP collaborations in the CENTCOM Region and route through DTRA PAO office. In addition, contractor shall add closed caption features to the film narrative and all subsequent copies via various media types develop under this TD not to exceed $2,000. Metabiota should coordinate directly with the Technical POCs identified below. No additional changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		$0.00

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES).

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL)

11a. FUNDS AUTHORIZED FOR THIS TD REV
$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ $0

12a. CURRENT PERIOD OF PERFORMANCE
15-MAY-2016 – 30-JUN-2016

12b. TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 31-JUL-2016

13. CONTRACTOR SIGNATURE AND DATE
Signature
Date _____

14. REGION
CENTCOM/ Regional

15. TECHNICAL POINTS OF CONTACT
(b)(6)
(b)(6) CENTCOM/ Regional
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X
(b)(6)
COR/ T3CTB Program Manager

Commented [TREC1]: Recommended redactions (entire document).

Exemption 6. USG personnel names and contact info

Commented [TREC2]: ***NOTE - This electronic signature should be highlighted redacted as well, unable to select it with highlighter***

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
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8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	021	C

4. TD TITLE	5. TOTAL TD ESTIMATE:
Iraq Field Epidemiology Training Program (FETP) Support	HOURS: 0 DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME (b)(6)
PHONE (b)(6) MAIL (b)(6)	PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The purpose of this revision is to increase the TD ceiling to account for current cost overruns and additional labor hours required to satisfy the remaining original agreed upon requirements outlined in TD-021RevB. Required in this TD revision is your proposed budget increase, basis of estimate (BOE) for the increase and the justification for each hour of increase to satisfy the remaining requirements. An update to labor hours and dollars expended to date on CLIN 1002 is also required, to include each labor category. Please note justifications need to be quantifiable to most extent possible. These items are requested NLT COB 25 Oct 2016.

Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	REV C TOTAL
1002	LABOR	$807,912
1003	MATERIALS	$24,057
1004	ODCs	$4,220
1005	TRAVEL	$2,941
TOTAL		**$839,129**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Program Manager
Rev B Hours: 845
Rev C Hours: 938

An additional 93 hours are being required for Program Managers (b)(6) and (b)(6) to support the implementation and completion of TD-21. Hours estimated for (b)(6) under Rev B totaled 365 and for (b)(6) 80. However, due to unanticipated costs in August, September, and October for the completion of the gap analysis (b)(6) hours increased to 413, creating a variance of 48 hours of additional labor to complete the analysis. The increase in (b)(6) hours are for conducting the initial gap analysis required for presentation at the NBMC on 7-8 September utilizing an older version of the NBERP received from the State Department. Due to the timeframe required to complete the analysis (b)(6) and team utilized the older version of the NBERP to execute the draft analysis, as well as a Google translated version of the new version received by the Iraqi stakeholders. Utilization of the Google translated version of the NBERP resulted in increased efforts due to the challenges faced with the program's translation capabilities and ensuring the accuracy of the document. In addition, once the professionally translated version was received on 30 September (b)(6) and team cross walked the documents to ensure accuracy in the overall analysis. The final analysis is on schedule to be delivered to CBEP in November.

Additional hours required for (b)(6) total 45 hours. The increase in hours is required for unanticipated efforts for program implementation in the last 3 ½ months of the program. The major factor contributing to (b)(6) increase in level of effort (LOE) is the management of the subcontractor URC in execution of in-country requirements for procurement, and preparation for the Hands-On-Training (HOT). In addition, US-based procurement requirements to support the HOT, as well as procuring reference materials for the ongoing remote training, required additional labor over what was originally anticipated. Since the materials required for the HOT were purchased in country and the materials required for the trainer demonstrations were procured in the US, it took (b)(6) and team additional labor hours to ensure that (1) the materials were equivalent based on market availability in country, and (2) that what was procured by the URC team was technically sufficient to support the training. Where materials were unavailable, or were not identical to materials secured in the US, the team made adjustments to both delivery of the training, as well as materials purchased. This required additional coordination efforts with URC, US-based vendors, and the trainers to ensure successful execution of the HOT.

Subject Matter Expert (SME) 1
Rev B Hours: 2119

Rev C Hours: 2344
An additional 222 hours are being required for SME 1's to support implementation and completion of the TD-21. The additional hours required are for (b)(6) he hours required support project coordination by (b)(6) ecution of the gap analysis by (b)(6) and execution of the epidemiology training by (b)(6) and (b)(6)

Under Rev B, hours required fo (b)(6) were 218 to support material development and review for the BS&S. However, due to her inclusion in conduction of the gap analysis and participation in the HOT during the August – November timeframe, an additional 111 hours are required for (b)(6) hours increased in the months of August and September in direct support of conducting the gap analysis. Originally, it was not intended for her participation, however, due to her background and unanticipated efforts required to complete the analysis, (b)(6) was brought in by the team to assist in conducting the gap analysis, presenting at the NBMC, and cross walking the analysis once the professional version was received. In addition, (b)(6) s continued to provide assistance in finalizing the analysis, which includes building out tables and graphs to support findings in the narrative.

Under Rev B, hours required for (b)(6) were 700 to support overall project coordination. However, due to her efforts in supporting the revision of epidemiology training materials, procurement, and coordination of the HOT (b)(6) hours have increased to 779, requiring an additional 79 hours on the project (b)(6) additional efforts focused on supporting formatting changes for the epidemiology materials, ensuring completion of comments trackers, and coordinating with the teams for on-time submission and follow up of receipt of approved PAO materials. In addition, efforts required to assist in procurement and coordination of the HOT, as well as completion of all activities supporting this effort were in excess of what was originally anticipated.

Under Rev B, hours required for (b)(6) were anticipated at 405.5 each. However, due to unforeseen efforts required for training material development and adaptation, execution of the gap analysis, and efforts in execution of the remote and HOT trainings an additional 209 hours are required. Efforts for both SMEs increased due to the development of all training materials presented in this course, and the multiple rounds of comments trackers and iterations of the materials to ensure formatting met DTRA standards. At the onset of the project it was not clear as to the requirements for formatting of the developed materials, and as the internal process at DTRA was finalized and communicated to the team, it took additional efforts to complete all materials and ensure PAO approval. In addition, hours increased for both team members in order to support the remote training for Cohort I, due to a family emergency that required (b)(6) (SME II) to travel to Yemen for personal needs. The SME I and RDA trainers stepped in to conduct training modules on behalf of (b)(6) during this timeframe. In addition, (b)(6) egan supporting the routine updates of loading video recordings and materials to the LMS site, which increased her labor over what was anticipated. Original projections for management of the site did not account for the intensity of management of materials required on the LMS platform. As well (b)(6) as pulled into the gap analysis in mid-August to provide input from an epidemiology perspective. Originally, we did not anticipate this need, as we believed efforts to conduct the analysis would be required from the BS&S personnel, only. However, this changed once we initiated review and execution of the gap analysis and realized that our team did not include this expertise, which was required for input and completion of the final product.

*Please note in Rev B, (b)(6) re included as SME 1s, however, due to a rate reduction received by URC in October 2016 for these personnel, they have been transitioned to RDAs to provide a cost savings to the Government.

Subject Matter Expert (SME) 2
Rev B Hours: 1449
Rev C Hours: 1434
Additional labor hours are not being requested for SME 2's at this time. Overall, efforts for SME 2's has decreased, which is a direct result of (b)(6) eave during the month of August.

Fnreign Local National (FLN) 3
Rev B Hours: 540
Rev C Hours: 604
Under Rev B, hours required for the FLN team were 540 total hours. However, due to unanticipated efforts in the field to support project implementation and procurement of materials and supplies, efforts have increased to 604 total hours, requiring an additional 64 hours of effort provided by (b)(6) dditional hours for (b)(6) are required to support the in-country procurement of supplies. (b)(6) hours in Rev B totaled 80, however, due to difficulties in procuring local materials, an additional 64 hours are required, bringing his total LOE to 144. The duration of time required to identify and secure the necessary training materials for the HOT was greater than the team had anticipated, requiring additional efforts on (b)(6) rt to ensure all materials were procured and transferred to CPHL on time for the training. Additional hours are not required for the remaining FLN trainers supporting this effort.

Research and Data Analyst (RDA)
Rev B Hours: 906
Rev C Hours: 1643
Under Rev B, hours required for the RDA's totaled 906, however due to unforeseen labor requirements, an additional 737 hours are being requested to support RDA efforts performed by (b)(6) (b)(6) (b)(6) hours increased from 110 originally intended to provide administrative support to the BS&S project team, to 589 to support concurrent activities on the project resulting in an increase in 479 hours. Once the gap analysis was underway in August, it became clear that the BS&S team did not have sufficient bandwidth to complete the remote BS&S training beginning on 18 September, prepare for the HOT, and conduct the gap analysis concurrently. As (b)(6) ad prior knowledge and experience working with the LMS Moodle platform, her efforts increased to support the build out and daily maintenance of the BS&S LMS site, participation in the BS&S remote training through the online

hosting of the classes, administrative tracking of homework and attendance, as well as the formatting of developed materials to meet the PAO standards for approval. The efforts of (b)(6) allowed the BS&S trainers to focus on the gap analysis, conduct online courses, and develop materials required for the HOT.

(b)(6) hours increased from 361.5 in Rev B to 395 in Rev C, requiring an additional 33.5 hours of effort. This additional effort was required to support the revisions required for the PAO approval of epidemiology training materials due to the multiple iterations of changes required, above what was originally anticipated on the project, as well as remote training coverage for (b)(6) during her absence.

(b)(6) hours increased from 150 in Rev B to 200 in Rev C, requiring an additional 50 hours of effort to support increased support in the months of August and September to secure the CPHL venue for the HOT, as well as holding routine communications with the participants to ensure training standards were met and maximum CME credits received by the MoH for participation in the training. It was not originally anticipated by the team, th(b)(6) ould be necessary for communications to this level of effort with participants prior to the implementation of the BS&S training, or that it would require an increased level of effort to secure the site for the training in October at the CPHL.

The additional hours required for efforts provided by (b)(6) URC are required to support in-country and US-based operations on the project that were not anticipated until actual implementation of their activities began in August. Originally (b)(6) had an estimated 30 hours on the project and (b)(6) an estimated 20. However, it became clear following onboarding of URC as a subcontractor in August that additional hours were required for overall in-country coordination to include procurement efforts, facilitation of communications with the trainers, and preparation for the HOT, as well as intensive oversight b(b)(6) as URC's manager for this effort. In order to complete all activities,(b)(6) quires a total of 136 hours an(b)(6) total of 69 hours. His additional efforts directly support the procurement of all in-country materials wit(b)(6) which required efforts outside of what was originally planned due to the changing in-country conditions and market availability of supplies. In additio(b)(6) orked with US-based trainers to cross walk materials and ensure they lined up, to the best of his abilities, for implementation of the HOT according to what was available in the local market and acceptable for the technical requirements of course implementation. The difficulties faced in securing the necessary materials exceeded the team's expectations when it was originally confirmed that all materials could be procured in country back in July. As well (b)(6) ll attend all 5 days of the HOT to ensure coordination with CLS, trainers, and the project team for the duration of the event. Originally, his attendance was not anticipated for all 5 days, due to in-country support provided by CLS, and well as the local trainers, however, it was determined necessary by the project team to provide support to the trainers during the event to ensure all materials were available for the practicum modules, as well as to communicate directly with the project team, should there be any issues that arise during the event.(b)(6) increase in hours are required to support routine project coordination necessitating additional efforts due to the challenges faced on the ground with procurement, and additional communications with her team to secure materials and execute the remote courses being held from August – October, and the HOT course scheduled in October – November.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 807.911.75		
1003	MATERIALS	$ 24.057.16		
1004	ODCs	$ 4.219.72		
1005	TRAVEL	$ 2.940.84		
	TOTAL	**$ 839,129.47**		

COMMENTS (OPTIONAL):

Increased TD ceiling by $91,966.12 and adjusted funding on the CLINs detailed in Block 10.

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ **$91,966.12**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$839,129.47**

12a. CURRENT PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

12b. TD REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature: . . . . . .

Date: _____

14. REGION

CENTCOM/ Iraq

15. TECHNICAL POINTS OF CONTACT

(b)(6)

Iraq Urban Country Manager

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X _____

(b)(6)

COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact Details
8. Description of the Technical Directive Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

From: (b)(6)
To:
Subject: FW: Request for review and approval of CLS travel form/TD-013 Uganda OHE December 6-11th
Date: Tuesday, October 20, 2015 12:09:34 PM
Attachments: CLS Cohort 9 Module 2 .docx

For J://drive records (TD-013) Travel Authorization & Approval

(b)(6)

Cooperative Biological Engagement Program
Research Management Lead

Booz | Allen | Hamilton
CTR A&AS Support Contractor
Desk (M(b)(6)
Cell (F):
DTRA:

-----Original Message-----
From: (b)(6)
Sent: Tuesday, October 20, 2015 12:01 PM
To: (b)(6)
Cc:
T C
(b)(6)
Subject: FW: Request for review and approval of CLS travel form/TD-013 Uganda OHE December 6-11th

H(b)(6)

I spoke with (b)(6) (Uganda CM), and he approves. Please process this CLS request for TM Mutyaba. (b)(6) will be the CBEP POC.

Cheers,
(b)(6)

(b)(6)
Email:
Phone:
Mobile

-----Original Message-----
From (b)(6)
Sent: Monday, October 19, 2015 3:30 AM
To: (b)(6)
Cc
(b)(6)
Subject: Request for review and approval of CLS travel form/TD-013 Uganda OHE December 6-11th

This email was sent from a non-Department of Defense email account, and contained active links. All links are disabled, and require you to copy and paste the address to a Web browser. Please verify the identity of the sender, and confirm authenticity of all links contained within the message.

J3CT Travel Requirements (Logistics Support)

☐ CONUS x OCONUS ☐ EXTERNAL (NCB, Policy, TRAC only)

DTRA Team Name		**Tasker No.**		**Date:10/19/15**
Program:	MoH/CDC Uganda District Epidemiology Tra ning			
POC Name and E-Mail		**PA Name and E-Mail**		

Purpose of Trip:

Travel support is requested under TD-013 to attend the MoH/CDC Uganda District Epidemiology Training in Jinja District ,Eastern Uganda at Source of the Nile Hotel,
P.O Box 1429, Plot 31 – 37 Bridge Street,
Tel: (256) 434 123 034/(256) 718 660 202/(256) 790 911 318.
email: sourceofthenilehotel@gmail.com

Travel Dates (if traveling separately, list dates in comments)

Day of Arrival:	**12/6/2015**	**Day of Departure:**	**12/11/2015**
PM's Approval	**Sign:**		**Date:**
DDIR's Approval *(CONUS Travel Only)*	**Sign:**		**Date:**

Travelers	**Last Name**	**First Name**	**Organization**	**E-Mail (Optional)**
Health Officer	(b)(6)		Kiryandongo Local Govt	(b)(6)
Veterinary Officer			Kiryandongo Local Govt	
Surveillance Focal Person			Kiryandongo Loca Govt	
Laboratory Focal Person			Kiryandongo Local Govt	
Medical Superintendent			Kiryandongo Local Govt	
Health Officer			Gomba Local Govt	
Veterinary Officer			Gomba Local Govt	
Surveillance Focal Person			Gomba Local Govt	
Laboratory Focal Person			Gomba Local Govt	
Health Center IV In Charge			Gomba Local Govt	
Health Officer			Butambala Local Govt	
Veterinary Officer			Butambala Local Govt	
Surveillance Focal Person			Butambala Local Govt	
Laboratory Focal Person			Butambala Local Govt	
Health Center IV In Charge			Butambala Local Govt	
Health Officer			Buvuma Local Govt	
Veterinary Officer			Buvuma Local Govt	
Surveillance Focal Person			Buvuma Local Govt	
Laboratory Focal Person	Webbo	Fred	Buvuma Local Govt	
Health Center IV In Charge	Kanyike	Baker	Buvuma Local Govt	
Health Officer	Mukisa	Emmanuel	Wakiso Local Govt	
Veterinary Officer	Oine	Patrick	Wakiso Local Govt	
Surveillance Focal Person	Mbayi	Adam	Wakiso Local Govt	
Laboratory Focal Person	Kakeeto	Alex	Wakiso Local Govt	
Health Center IV In Charge	Nabuganda	Betty	Wakiso Local Govt	
Health Center IV In Charge	Ictho	Jerry	Zombo Local Govt	
Health Center IV In Charge	Twesigomwe	Alan Paton	Mitooma Local Govt	

Each traveler on the team must provide justification for why they need to travel

J3CT Travel Requirements (Logistics Support)

DTRA Team Name		Tasker No.	
District Veterinary Officer	(b)(6)	Sheema Local Govt	(b)(6)

Support Requests: BAH Travel Dept (CONUS/OCONUS)	Yes	No	Comments/Specifics
Air Transportation		√	
Rental Car		√	
CR/Cable Assistance (External Only)		√	
Trip Books (External Only)		√	
Other Assistance (External Only)	√		Transport refund of USD 40.00 for a one way trip

Teams:	Departure Date	Departure Airport	Destination

J3CTE SUPPORT REQUIREMENTS:
Primary Name:
Alternate Name:

Support Requests: In-Country Logistics Support	Yes	No	Comments
Air Transportation		√	
Ground Transportation	√		Reimbursement for trainees and trainers (CDC Uganda identified amount is USD 40.00) for a one-way trip as transport refund per DTRA approval.
Rail Transportation		√	
Interpreter Support		√	
Hotel Accommodations	√		Accommodation for 29 training participants
Meeting Space	√		A meeting hall that can accommodate ~ 35 people comfortably
Embassy Letters		√	
Video teleconference		√	
Translation		√	
In-Country Cell Phone		√	Participants have personal cellphones

Certification for External Use Only: I affirm that at least 51% of the activities on the requested travel will be CTR-related		
Date		
Requestor's Name		
Requestor's Signature		
Approval for External Use Only		
Approver Name		
Approver Title		
Approver Signature		

Itinerary: Date and complete itinerary (including travel and meetings)	
6 Dec 2015	Participants arrive to the training venue. Ground transportation reimbursement requested unless DTRA approves otherwise.
7-11 Dec 2015	OHE Training, Cohort 09, Mod 02
11 Dec 2015	Participants depart to their home locations. Ground transportation reimbursement requested unless DTRA approves otherwise.

Specific Requests (insert names of travelers traveling on each separate itinerary below)		
Names		
In Country Air Transportation		
Date	Time	Location to location

Each traveler on the team must provide justification for why they need to travel

J3CT Travel Requirements (Logistics Support)

DTRA Team Name		Tasker No.	
Names			
In Country Ground Transportation			
Date	**Time**	**Location to location**	
Names			
In Country Rail Transportation			
Date	**Time**	**Location to location**	

Hotel Accommodations

Hotel	Name	Check-In	Check-Out
Source of the Nile Hotel	(b)(6)	6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
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Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015

Each traveler on the team must provide justification for why they need to travel

J3CT Travel Requirements (Logistics Support)

DTRA Team Name		Tasker No.	
Source of the Nile Hotel	(b)(6)	6 December 2015	11 December 2015
Source of the Nile Hotel		6 December 2015	11 December 2015

Comments (use this space for additional information)

1. CLS contract team is requested to identify, secure and provide the training venue in Jinja district of Ugnada for the event during 7-11 December 2015 – this is the most urgent request as the venue needs to go on the Letter of invitation to be sent out to the training participants.
2. CLS contract team is requested to provide per diem meal allowances to trainees and trainers per DTRA approval before 12:00 noon of each training date.
3. CLS contract team is requested to provide trainees and listed trainers with ground transportation reimbursement for costs going to and from the venue per DTRA approval (CDC Uganda identified amount is $40 each-way)..
4. CLS contract team is requested to provide or ensure that the venue will offer flip charts, markers, notebooks and pens provided as complimentary
5. CLS contract team is requested to provide or ensure that the venue possesses a backup generator. air conditioner, and clock in the meeting room.
6. CLS contract team is requested to ensure that the venue possess the number of power outlets and extension courds in training room adequate to support the listed participants.
7. CLS contract team is requested to secure and provide a meeting room for ~8 persons for early morning meetings (8:00am – 8:45am)
8. CLS contract team is requested to provide space to store 5 cargo trunks and boxes that hold the training manuals (in case the main training area is not big enough).
9. Printing of manuals. Student Version = 35 copies and instructor version = 10 copies
10. CLS contract team is requested to communicate on all arrangements with the following CDC Uganda POCs:
    - (b)(6) (b)(6) email: (b)(6)
    - nai (b)(6) and
    - email (b)(6)

Justification for Travel

Each traveler on the team must provide justification for why they need to travel. The justification must highlight how the trip will be impacted if the traveler is not physically present. Use additional space as necessary.

Each of these participants' respective positions in their districts requires that they attend the training in order to improve early detection and preparedness activities including timely outbreak investigation and response in their districts. This will assist Uganda MoH to meet the IHR requirements and improve the country's capacity for disease surveillance and outbreak response

(b)(6)

Attached is the CLS form for One Health Epidemiology Uganda – Training Module 2 of cohort 9 under TD –013. This CLS form is being submitted for the dates of December 6th – 11th to support epidemiology training in Jinja Uganda.

We kindly ask for your approval to engage the CLS contract team to identify and secure the training venue in Jinja district of Uganda and communicate this information back to CDC Uganda to ensure the Letters of invitation go out for training participation.

Very Respectfully,

(b)(6)

Metabiota, Inc.

(b)(6)

From: (b)(6)
To:
Cc:

Subject: RE: [External] RE: Request for Subcontractor Approval AEP
Date: Friday, October 23, 2015 2:41:16 PM

This email was sent from a non-Department of Defense email account, and contained active links. All links are disabled, and require you to copy and paste the address to a Web browser. Please verify the identity of the sender, and confirm authenticity of all links contained within the message.

(b)(6)

Metabiota has an approved Technical Directive (TD-017) to provide a grantsmanship mentor. The NTE value on that Directive is $150,000. It calls for two one-person one-week trips to Tbilisi, Georgia with additional work time to be performed in the US.

Please let us know if you have additional questions.

V/r,

(b)(6)

EUCOM Regional Science Lead
Cooperative Biological Engagement Program
Booz Allen Hamilton
CTR A&AS Support Contractor
Office (b)(6)
Email:

From: (b)(6)
Sent: Friday, October 23, 2015 1:46 PM
To: (b)(6)
Cc:
(US)
Subject: [External] RE: Request for Subcontractor Approval AEP

OK, no problem here, just a few follow on questions, I am not clear on exactly is it one or two people and are they in country or asking to travel for ~$10K a year

Thanks

V/r

(b)(6)

Georgia Country Manager, J3CTB
Cooperative Biological Engagement Program
Office (b)(6)

-----Original Message-----

From: (b)(6)
Sent: Friday, October 23, 2015 9:33 AM
To: (b)(6)
Cc:
(U
Subject: FW: Request for Subcontractor Approval AEP

Hi (b)(6)

Metabiota is proposing to subcontract with (b)(6) r implementation of AEP TD-017 (Georgia Grantsmanship Support and Mentorship). Please let me know if you concur.

Cheers,
(b)(6)

Email (b)(6)
Phone
Mobile

-----Original Message-----
From: (b)(6)
Sent: Friday, October 23, 2015 9:25 AM
To: (b)(6)
Cc:
Subject: FW: Request for Subcontractor Approval AEP

Good mornin (b)(6)

Attached please find Metabiota's Request to Subcontract Attimo Group LLC, DBA Attimo Research and Development to support TD-17 Georgia Grantsmanship Support and Mentorship for your review and approval.

Thank you!

(b)(6)
Contractor
Contract Specialist ▪ TENICA
Defense Threat Reduction Agency (DTRA)
Telephone (b)(6)
(b)(6)

-----Original Message-----
From: (b)(6)
mailto
Sent: Wednesday, October 21, 2015 8:03 AM
To: (b)(6)
Cc:
Subject: Request for Subcontractor Approval AEP

This email was sent from a non-Department of Defense email account, and contained active links. All links are disabled, and require you to copy and paste the address to a Web browser. Please verify the identity of the sender, and confirm authenticity of all links contained within the message.

Good Morning All!

Attached, please find Metabiota's request to subcontract services to Attimo Group LLC, DBA Attimo Research and Development in accordance with FAR 52.244-2.
At your earliest convenience, please review and provide approval to proceed with this subcontractor.

Thank you!

(b)(6)

Program Operations Manager
AEP Contracts Administrator
(b)(6)

Skype (b)(6)

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From: (b)(6)
To:
Subject: FW: TD-016: Georgia GIS SME Support
Date: Monday, November 16, 2015 4:59:11 PM

(b)(6) Contractor
Contract Specialist • TENICA
Defense Threat Reduction Agency (DTRA)
Telephone (b)(6)
(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Wednesday, November 11, 2015 7:54 AM
To: (b)(6)
DTI
(US
Cc:
Subject: RE: TD-016: Georgia GIS SME Support

H (b)(6)

Concur with the proposed approach. Please identify the revision as "A" in box 3b, and send a signed version, for me to counter-sign.

Cheers,
(b)(6)

Email (b)(6)
Phone
Mobil

-----Original Message-----
From: (b)(6)
Sent: Friday, October 23, 2015 2:58 PM
To: (b)(6)
(b)(6)
Cc: (b)(6)
Subject: RE: TD-016: Georgia GIS SME Support

(b)(6)

Apologies, this was meant to get out to you early last week. After reviewing the Forms A and talking to the project teams, including the original GIS SME on the three CBR projects, I realized that we needed to revise the proposal for TD-016. The requirements as originally outlined do not appear capture the depth of the GIS SME activities required, and the proposed labor mix also appears to be incorrect based on discussions with our candidates for the position. As a result, we have revised the proposal (changes are highlighted in yellow) to remove some SME2 hours (GIS
mentorship) and replace them with RDA hours (intended for technicians to assist Georgians with complex GIS

analysis beyond their level of capability).

Please note, the proposed number of hours shown is what fits into the previously proposed budget but is still significantly short of what was proposed by the GIS SME team. That said, we are planning to contain costs on this project by issuing a FFPLOE contract to our subcontractor assuming DTRA is OK with the altered labor mix.

If you require a signed PDF version, please let us know and we will provide you with one.

Best regards,

(b)(6)

Metabiota, Inc.

(b)(6)

On 9/14/15, 9:49 AM (b)(6) wrote:

>FYSA
>
>On 9/14/15, 3:12 AM, (b)(6) (b)(6) wrote:

>>Thank (b)(6)
>>
>>The approved TD and GG proposal docs are attached.
>>
>>Cheers,
>(b)(6)
>>
>>Email: (b)(6)
>>Phone:
>>Mobile
>>
>>
>>-----Original Message-----
>>From: (b)(6)
>>Sent: Sunday, September 13, 2015 8:15 AM
>>To: (b)(6)
>>Cc:
>(b)(6)
>
>
>>Subject: Re: TD-016: Georgia GIS SME Support
>>
>>Much appreciated (b)(6)
>>
>>We will begin project coordination efforts this week.
>>
>>Best regards,
>(b)(6)
>>
>>From (b)(6)

>>(b)(6)
>>Date: Sunday, September 13, 2015 at 5:23 AM
>>To:(b)(6)
>(b)(6)
>>Cc:(b)(6)
>(b)(6)
>
>>

(b)(6)

>>Subject: Re: TD-016: Georgia GIS SME Support
>>
>>Hi(b)(6)
>>
>>TD-16 is approved. I'm currently on travel, and will forward
>>separately the signed TD and GG proposal docs, once I am able to do so
>>from my computer.
>>
>>Cheers,
(b)(6)
>>Email:(b)(6)
>>Mobile
>>
>>Sent from my iPhone
>>
>>On Sep 10, 2015, at 12:04 AM(b)(6)
(b)(6) wrote:

>>Please find attached our response to TD-016. Of note, I have included
>>an unsigned Word document, due to the imbedded Excel file, and a
>>signed PDF document.
>>
>>We look forward to any comments and feedback re: this proposal.
>>
>>Best regards,
(b)(6)
>>Program Director - AEP

>>Metabiota, Inc.
>>email: (b)(6)
>>Mobil
>>Skype
>>
>>CONFIDENTIALITY NOTICE: The information contained in this electronic
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>>in error, please delete it without copying or forwarding it, and
>>notify the sender of the error by email reply.
>>
>>
>>
>>On 9/1/15, 2:20 PM, (b)(6) V DTRA J3-7 (US)"
>(b)(6) wrote:
>
>>Hi (b)(6)
>>
>>Please find attached technical direction TD-016 for GIS SME support in
>>Georgia. We are using a new format to capture all of the components
>>of TDs. Your response, in this new format, is requested by COB 4 Sep 2015.
>>If you feel you cannot submit a completed response in this time frame
>>based on the information provided in the TD or if you have questions
>>about how to use the form, please arrange a call with myself and the
>>Contracting Officer within 24 hours of receipt of this email.
>>
>>Nothing in this email shall constitute a contractual direction or
>>affect the current negotiated cost, price or schedule contained in the contract.
>>If the contractor believes there is an impact, the contractor must
>>disregard that portion of the communication and immediately contact
>>the contracting officer for direction.
>>
>>Metabiota shall proceed with all coordination necessary to implement
>>this task and communicate as needed with the DTRA CBEP Points of
>>Contact listed in Block 15 of the Technical Direction, with copy to
>>the individuals specified below and on the Cc line.
>>
>>Cc: (b)(6)
> (b)(6)

(b)(6)

>>Deputy Chief Scientist
>>Cooperative Biological Engagement Program Cooperative Threat Reduction
>>Defense Threat Reduction Agency
>>Email: (b)(6)
>>Phone
>>Mobile
>>
>>
>><TD-016_Georgia_GIS 2015-09-09 Final.docx> <TD-016_Georgia_GIS
>>2015-09-09 Final.pdf>
>

From: (b)(6)
To:
Cc:

Subject: Metabiota AEP TD 009 NHLS BS&S Training South Africa
Date: Wednesday, July 01, 2015 9:04:48 PM
Attachments: Metabiota_AEP_Transmittal Letter_TD009_BiosafetyandBiosecurityTrainingSouthAfrica_150701.pdf
Metabiota AEP Technical Proposal TD-009 NHLS BSS training 20150701.pdf
Metabiota AEP Budget TD-009 BBSandS NHLS 2015-07-01 .xlsx

Good Evening (b)(6)

Attached, please find Metabiota's Budget and Technical Proposal for the subject technical directive. Please feel free to contact me with questions or concerns.

Thank you!

(b)(6)
Program Operations Manager
AEP Contracts Administrator

(b)(6)

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METABIOTA

July 01, 2015

(b)(6), Contracting Officers Representative J3CTB
Defense Threat Reduction Agency (DTRA)
8725 John J Kingman Road, #6201
Fort Belvoir, VA 22060

Sent via email to (b)(6)
CC; (b)(6)
(b)(6)

RE: HDTRA1-14-C-0104 Technical Direction **009 for continued implementation of Biosafety and Biosecurity training in South Africa.**

Dear (b)(6)

Metabiota, Inc. (Metabiota) is pleased to present the attached proposal in response to the above referenced Letter of Technical Direction sent by DTRA on **June 13, 2015**

For the effort described, Metabiota estimates the Rough Order of Magnitude (ROM) to be **$335,607** for a **Period of Performance of May 16, 2015-May 25, 2016.** The detailed budget is included. This proposal remains valid until September 30, 2015.

Please feel free to contact (b)(6) with questions or concerns at (b)(6)

Sincerely,

(b)(6)

Metabiota's Technical and Cost Proposal

"Biosafety and Biosecurity Training with South Africa's National Health Laboratory Services."

Technical Direction Number: TD-009
Contract Number: HDTRA1-14-C-0104
CAGE Code: 56SP4
DUNS number: 828131156

Small US Business
Metabiota, Inc.



One Sutter Street, Suite 600 San Francisco, CA 94104

Metabiota Points of Contact
Director: (b)(6)
Email
Deputy Directo
Phone
Email
Program Mana
Phone
Email
Program Opera
Phone
Email

DTRA CBEP Points of Contact (b)(6)
South Africa Country Manager
Phone (b)(6)
Email
Regional Science Manager: (b)(6)
Phone (b)(6)
Email
Contracting Officer: (b)(6)
Phone (b)(6)
Email

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Executive Summary

In response to Defense Threat Reduction Agency's Cooperative Biological Engagement Program (DTRA CBEP) regional leadership tasking via the Academic Engagement Partnership (AEP) contract vehicle, and through collaboration with the South Africa's National Health Laboratory Services' (NHLS), Metabiota, Inc. seeks to support the DTRA CBEP mission through the conduction of country-specific, high-value training programs to increase the effectiveness of NHLS biosafety and biosecurity (BS&S) activities. These proposed efforts will focus on delivering tailored support for increased BS&S awareness, equipment assurance of proper functionality, and ensured laboratory staff protection.

Through this activity, Metabiota will engage with NHLS in order to direct technical support in the development and implementation of BS&S initiatives. Established through legislation in 2001 to connect public health system laboratories, NHLS is the largest diagnostic pathology service in South Africa. Laboratory and related public health services are provided by the NHLS to over 80% of the population through a national network of laboratories in all nine provinces, employing over 6,700 people. NHLS activities comprise diagnostic laboratory services, research, teaching and training, and production of sera for snake antivenin, reagents, and media. Its specialized divisions include the National Institute for Communicable Diseases, National Institute for Occupational Health, National Cancer Registry and Antivenin Unit.

This document outlines the approach that Metabiota will employ to accomplish the requirement. In short, Metabiota intends to:

1. Facilitate the completion and dissemination of a standardized BS&S training video materials for laboratory personnel throughout the NHLS network laboratories;
2. Expand the in-country Overseas Humanitarian Assistance Shared Information System (OHASIS) capabilities by supporting the development of a new module for increased quality assurance and quality control procedures for monitoring laboratory equipment certifications and maintenance; and
3. Facilitate the development of a Fit Testing respiratory protection-training program to be disseminated via Safety, Health, and Education (SHE) Officers.

Project Overview

Background

Emerging infectious diseases (EIDs) are a challenge for medical and public health infrastructures and pose a significant threat to security and stability across the globe. To manage these threats, DTRA CBEP aims to reduce potential impacts of biological threats by enhancing biological safety and security, awareness of biological risks, and knowledge related to biological pathogens globally.

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To do so, DTRA CBEP works collaboratively with partner nations, other USG agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health; promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner. In AFRICOM, specifically, DTRA CBEP seeks to secure and consolidate select agents and enhancing BS&S standards in order to strengthen the region's ability to detect, diagnose, survey, and report emerging and re-emerging diseases of international security concern.

In response to DTRA CBEP AFRICOM regional leadership tasking, and through collaboration with the NHLS, Metabiota seeks to support the DTRA CBEP mission through the conduction of country-specific, high-value training programs to increase the effectiveness of NHLS' BS&S activities. These proposed efforts will focus on delivering tailored support for increased BS&S awareness, equipment assurance of proper functionality, and ensured laboratory staff protection.

As comprehensive employee BS&S training programs can mitigate potential EID risks by aiming to prevent exposures to healthcare workers and laboratory personnel, this collaborative training will support the DTRA CBEP mission of improving global health security with the inclusion specialized capacity-building efforts.

Metabiota's field experience and decades of expertise allows us to be well positioned to support the implementation of all of the associated activities, as well as scientific engagement in AFRICOM's area of responsibility.

Goals and Objectives

This activity aims to provide NHLS with continuous quality assurance oversight and to mitigate potential risks to healthcare workers and laboratory personnel exposed to EIDs by conducting training to improve biological safety in NHLS's laboratory network thereby managing the risk of accidental or intentional release of EID causative agents. The delivery of these requirements will cultivate continued learning throughout the NHLS network of laboratories and further expand in-country monitoring and quality improvement activities.

To achieve this purpose, Metabiota and their collaborative partners will:

1. Complete and distribute a standardized BS&S video training courses;
2. Expand in-country OHASIS capabilities by developing new IT modules allowing for comprehensive equipment maintenance requirement monitoring;
3. Develop and conduct a training-of-trainer (TOT) program for the conduction of Fit Testing Respiratory Protection Training Program to be disseminated via SHE Officers.

To accomplish these goals DTRA CBEP will engage Metabiota to administer the BS&S Training in South Africa in collaboration with NHLS.

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Impact

Through the implementation of the BS&S training in South Africa facilitated by Metabiota, DTRA CBEP will be able to:

- Develop and enhance EID BS&S systems and build regional capabilities;
- Ensure safe EID collection and handling practices supporting the implementation of international standards of BS&S;
- Provide quality assurance oversight to regional public healthcare system personnel;
- Support public health capacity building in the region and foster scientific research and collaboration through the development and implementation of basic research activities.

This activity will provide a measurable and achievable result in building scientific capacity in South Africa, contributing to the promotion of a global network of research collaborations, and the development of a sustainable infrastructure for advancing scientific research, including the early detection of emergent threats.

Training engagements are critical to capacity building efforts in host countries and supporting the early detection and response to emerging threats, thus safeguarding the world from infectious disease threats.

Risk Management

In order to maintain our course of action and guarantee trainings that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix found below. Identifying and acknowledging the risks associated with not implementing this training, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Cost						
In Country Travel Arrangements	Significant in-country travel is required for these projects, and our estimates may be under the true number.	4	4	**Medium-High**	Consult often with NHLS and have them cost estimate with actual travel costs before arrangements have been booked.	Medium
Schedule						
Material Procurement	Various items will be purchased in the USA and shipped to NHLS in South Africa while some items will be purchased locally. There may be some confusion and delays over which items to ship and which to purchase locally in RSA.	4	3	Medium	Engage a local logistics organization to provide in-country support with rapid turn-around and solid track record in supporting USG operations. Consult with NHLS in enough time to establish USA versus SRA purchases to allow for enough time to procure items to keep the projects on schedule.	(b)(4); (b)(6)

Receiving Deliverables on Schedule from NHLS	NHLS is a large organization with a highly centralized authority structure that serves as a bottleneck for decision-making, thus the timely preparation and delivery of deliverables may be affected.	4	4	(b)(4); (b)(6)	Maintain frequent communication and consultations with NHLS to ascertain partner progress in meeting completion of the deliverables and work to de-escalate decision-making needs.	Med
Performance						(b)(4); (b)(6)
Writing of SOPs for Fit Testing to coincide with delivery of Portacounters into RSA.	NHLS may not have developed SOPs for its Fit Testing Objective by the time Portacounters arrive in RSA from the USA.	4	3	**Med-High**	Coordinate NHLS development of Fit Testing SOPs with timeline of purchasing Portacounters and shipping them to RSA. Provide assistance to development of Fit Testing SOPs as needed.	

Implementation Plan

Introduction

Metabiota will employ its existing organizational leadership to interface, as needed, with the Regional Science Manager and Regional Program Manager to direct the operational and administrative support required ensuring implementation of the BS&S training. Our Program Manager will oversee the training programs with the support of a subject matter expert, travel coordinator, grants manager, trainers, and research and data analysts, to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Communications Protocols

To accomplish event implementation, Metabiota will maintain open lines of communication and will use a phased approach of engagement, maintaining project tracking and scheduled deliverables. This phased approach will be coordinated directly with the NHLS Program Manager, Trainer, Research and Data Analyst, and SME collaborators to ensure the event is implemented according to DTRA CBEP requirements, in the assigned timeframes, and supportive of the DTRA CBEP mission. In addition, Metabiota will maintain routine communication with DTRA CBEP to ensure they have full visibility on the training engagement and development activities, status and process of execution.

Technical Approach

Phases of Technical Approach

Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project phases and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. The following phases are required for this project:

Phase 1: Biosafety & Biosecurity Training Video Distribution
Phase 2: Monitoring of Equipment Maintenance Enhancement (OHASIS)
Phase 3: Respirator Fit Testing of Employees

Phase 1 – Biosafety & Biosecurity Training Video Distribution (1 July – 31 December)

Objective: Complete the development a professionally produced video and related materials or a ToT program to standardize and introduce laboratory safety-related information.

Process: Metabiota, in coordination with DTRA CBEP and NHLS, is completing a professionally produced video and related materials (*e.g.*, standard operating procedures (SOPs)) for a ToT program to standardize and introduce laboratory safety-related information. In continued support of this effort, Metabiota and NHLS will procure the necessary equipment and consumable required for distributing these training videos to laboratory personnel, visitors, security personnel, and contract maintenance workers.

Under the direction of NHLS SHE Officers, laboratory personnel will be trained to oversee delivery of introductory video trainings and associated SOPs to personnel within their home-based facility. There are no labor or travel costs associated with dissemination of training materials. The only costs associated with the completion of this objective are associated with procurement of equipment and consumables required for distributing the completed videos. Training videos will be rolled out via Apple Air tablet computers to academic institutions and regional centers, whereas DVDs will be provided to more rural facilities within the network. Metabiota had not previously budgeted for procurement of these materials, as it was assumed that CLS would manage this activity. Moving forward, Metabiota will procure all tablets and DVD's for this objective and leverage the CLS Single Shipper mechanism to ensure materials are shipped to the Republic of South Africa in compliance with all export/import regulations.

Deliverables:

- Deliverable 1: Submission of training materials and post-action report for the conduction of laboratory personnel training to oversee the distribution and delivery of BS&S video trainings and associated SOPs to personnel.

Phase 2 – Monitoring of Equipment Maintenance Enhancement (OHASIS) (1 Oct 2015 – 30 April 2016)

Objective: Ensure all BS&S associated equipment is properly calibrated, functioning, and maintained.

Process: To manage potential risks due to human error and paper-based record keeping as well as provide increased oversight, Metabiota will develop a module for the enhancement of OHASIS, an online health monitoring system that is currently used by all facilities within the

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NHLS network to record and investigate incidents, record employee health, note vaccinations given, and document trainings completed. Metabiota will additionally coordinate with the NHLS to develop and distribute an online e-learning training and manual for the SHE Officers.

The enhancement module is intended to allow for laboratories to monitor the maintenance requirements of equipment so as to ensure proper functionality through the existing OHASIS program, thereby improving BS&S. Additionally, this module will provide reports on laboratory equipment including, biological safety cabinets, autoclaves, centrifuges, fume hoods, and other local exhaust ventilation systems.

The enhancement module will be piloted in three laboratories over the course of four to five weeks. Metabiota will communicate, troubleshoot, and share developments with the Canadian developers, in line with current agreements.

Deliverables:

- Deliverable 1: Rollout of enhanced equipment maintenance module for OHASIS
- Deliverable 2: Development and conduction online e-learning training and a training manual for SHE Officers

Phase 3 – Respirator Fit Testing of Employees (1 July 2015 – 30 April 2016)

Objective: Develop and initiate a Master Trainer ToT Fit Testing Program to ensure proper fit of PPE and optimize biosafety for all laboratory personnel. This program will include initial scale up and Master-level training of NHLS staff. As a result, the NHLS will have personnel capable of conducting internal ToT events, which will allow for them to reach the estimated 3,000 laboratory staff in need of Fit Testing.

Process: To manage risks associated with aerosol exposures in the laboratory setting, Metabiota will develop a Master Trainer ToT Fit Testing Program with the NHLS. This training will use specialized Fit Test equipment to identify the appropriate respirator for a given person. To enable the NHLS to reach the estimated 268 locations and 3,000 staff in need of Fit Testing, many of whom are in rural areas, Metabiota will develop Fit Test SOPs, map initial scale up plan, develop Trainer and Master Trainer selection criteria, and conduct initial Fit Test trainings for a select starting cohort of NHLS staff.

Deliverables:

- Deliverable 1: Submission of training scale-up plan, training materials, and post-action reports for the conduction of the Master Trainer ToT Fit Testing Program
- Deliverable 2: Submission of Trainer and Master Trainer cohort list, training timeline for scale-up completion for fit testing all 3,000 NHLS employees, and post-action reports.

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Management Approach

Project Team Structure

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the Program Manager, Research and Data Analyst, Travel Coordinator and a team of Research Collaborators and Subject Matter Experts that will be tasked with specific assignments to support the development and implementation of the training based on their administrative and scientific expertise. This team of experts will ensure the overall project management and tasks associated with the training are met at every level using best practices and that only the highest level of scientific rigor and expertise is applied to this effort.

Initiation

Prior to initiating any action, Metabiota and DTRA CBEP will secure a clear understanding of the objectives and mission of this undertaking, and make sure all stakeholders agree to it. Following authorization to proceed by DTRA CBEP, Metabiota will move into the planning and execution of the trainings and IT enhancement activities.

Execution

The core project management team will maintain oversight and implementation of the project at all times and will ensure timely execution of the training events and tracking objectives to ensure the project remains on schedule and within budget. The project will be managed according to the phased implementation plan and will be course-corrected as needed to ensure project goals are met. The following tools will be used to guarantee the project schedule will be maintained:

Project Administration:

1. Weekly team meetings and conference calls will be held to internally review the project achievements, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Coordinator and will include the PM, Research and Data Analysts, SMEs and AEP leadership, as needed, based on the requirements and stage of implementation.
2. Metabiota will conduct routine communication with DTRA CBEP regional leadership and in-country collaborators to provide routine status updates and ensure project implementation.

Project Reporting:

1. Weekly status reports will be provided by the PM to senior Metabiota leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course-correction as needed to ensure training goals are met.

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Monitoring and Controlling

1. Routine risk assessment will be performed internally among the Metabiota project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with DTRA CBEP regional leadership to ensure the project remains on track and is implemented according to standard.
3. Routine oversight and coordination will be performed to ensure NHLS is performing in-country logistical requirements to ensure successful execution of the project phases. Monitoring will include both administrative and fiscal oversight.

Timeline

Phase	Q3 2015			Q4 2015			Q1 2016			Q2 2016		
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Phase 1: BS&S Training Video Distribution												
Phase 2: Monitoring of Equipment Maintenance Enhancement (OHASIS)												
Phase 3: Respirator Fit Testing of Employees												

Completion

Metabiota will drive the project to completion in a timely manner by maintaining a focused project schedule with routine meetings and communication with DTRA CBEP regional leadership. This will allow for continued coordination, while maintaining targeted objectives. As the activity progresses, Metabiota will provide all required deliverables and after action reports to allow for lessons learned and continuation of solid execution and implementation of activities. Metabiota believes that the experience and management it will bring to this project, in collaboration with DTRA CBEP will guarantee success.

Cost Management

The Metabiota team and all partners will maintain an acute focus on cost management to ensure that the training is delivered at a reasonable cost to the government. Our team will provide full oversight of NHLS to ensure accurate and responsive financial reporting and will facilitate cost savings to the Government wherever possible. Metabiota will follow procurement regulations ensuring the best price is received under the time constraints using all means available.

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Budget Narrative

Period of Performance
The Period of Performance for this effort is 16 May 2015 – 15 May 2016.

Labor
Costs for direct labor to support this activity is required for the following personnel:

- Metabiota Program Manager (b)(6) will oversee the execution of program objectives towards the completion of DTRA CBEP goals at the regional level, and will lead communication with DTRA CBEP for this activity. (b)(6) will do so by maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. (b)(6) will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables erstwhile ensuring the program remains within scope, budget, and timeline.
- Metabiota Trainer I: (b)(6) will ensure the execution of project objectives towards the completion of DTRA CBEP goals at the project level. (b)(6) (b)(6) will do so by managing stakeholder and subcontractor coordination and project execution, with a focus on project milestone achievement and stakeholder buy-in development and maintenance. (b)(6) will regularly communicate project status with (b)(6) and will assist him in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. (b)(6) will also assist (b)(6) in ensuring all project requirements and deliverables are fulfilled while concurrently ensuring the project remains within scope, budget, and timeline.
- NHLS Grants Manager: (b)(6) will act as the Project Manager for each of the three proposed requirements, overseeing the design and implementation of all project activities. (b)(6) is currently the National Manager for the Safety Health and Environment Program for the National Health Laboratory Service. (b)(6) has over 33 years experience in working in environmental health law enforcement including audits and evaluations, noise control, pollution control, waste management, public relations, occupational health and safety policy formulation, audit tool development and health project development and management.
- NHLS Subject Matter Expert I: (b)(6) Information Manager, also supports work for the National Institute for Occupational Health (NIOH), a division of NHLS will be providing thirteen (13) years of experience in OHS research, data management, data cleaning, data extraction, information management and information technology management. (b)(6) is experienced in electronic records management, development of patient information systems, electronic patient records, occupational health information systems. In addition (b)(6) has expertise in software development life cycle, user interface and user experience development and is the lead developer and project manager for the OHASIS information system project. Alongside

(b)(6) will provide guidance and support on the IT infrastructure configuration and management for the OHASIS module development.

- NHLS Trainer I: (b)(6) is the National Deputy Manager for the Safety Health and Environment program for NHLS, where she manages and coordinates the functions and duties of five (5) qualified SHE Officers, develops and implements a Health & Safety (H & S) program for the NHLS according to international best practice and in compliance with the Occupational Health and Safety (OHS) Act and the relevant regulations, advises line management and staff on the application of relevant OHS policies and procedures to ensure compliance to legislation. Additionally, (b)(6) collates data from all OHS Audits conducted in the NHLS, generate reports and communicate results to Laboratory, Business and Executive managers. (b)(6) will provide leadership and support for the development and implementation of the BS&S video project, as well as the Fit testing training efforts.
- NHLS Research and Data Analysts (3 personnel):
  - (b)(6) is a registered Occupational Hygienist with the Southern Institute for Occupational Hygiene (ROH-SAIOH), currently working for the National Institute for Occupational Health (NIOH), a division of NHLS. (b)(6) s responsible for conducting risk assessments and occupational hygiene surveys including illumination, noise, ventilation, hazardous chemical substances, ergonomics, environmental pollution (land, water and air) and waste management in a wide range of industries. Presently, (b)(6) is involved in teaching and research in respirator fit testing, facial anthropometry and designing effective respirator protection programs. (b)(6) will act in this capacity in support for the Fit Testing project, under the leadership of (b)(6) and (b)(6)
  - (b)(6) s the Finance and Administration Manager for NHLS and has been with the organization for 15 years. He holds a national diploma in Cost Accounting and has worked as a Financial Manager for two business units within NHLS (Northern and Central) as well as two institutes within NHLS (NICD and NIOH).
  - (b)(6) as worked with NHLS as Senior Bookkeeper for 11 years and has a total of 22 years experience working within corporate financial environments. He holds a degree in Business Communications and the major aspects of his duties include project coordination, budgeting and management accounting, event planning and co-ordination. Both (b)(6) will be assisting (b)(6) in project coordination, integration of new efforts with existing records (including the integration of the OHASIS module) and the scheduling and planning of training events.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

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Materials

Materials and supplies are required to support training efforts, project activities, information dissemination, fit testing requirements, and general administrative costs. Materials will include:

- Tablet Computers, BS&S ToT program, the SHE officers will require twenty-five (25) tablet computers (Apple iPad Air) for dissemination to the identified NHLS locations. Spread throughout South Africa are nine (9) academic sites that will receive tablets (one per site), which serve as referral centres and have more than one laboratory on site. In addition, there are four (4) Regional Offices that require a total of eight (8) tablets; two (2) tablets per Regional Office, as these offices all have Administration facilities as well as laboratories. The three (3) institutes are situated on two different sites where two of the institutes share a common reception area, thus a provision is made for two (2) per site for a total of four (4) tablets. The Corporate head office has the largest number of visitors and also does a lot of training, therefore the allocation of four (4) tablets is proposed. Training on the use of the tablets, as well as the process through which to offer and administer video training will be provided at the identified facilities by experienced SHE Officers on a one on one basis with the people identified by the facility manager as being responsible for administering the video training material. It is intended that the academic centres be issued the tablet computers.
- Training video DVDs, any facilities that will not receive tablets, videos will be placed on DVD and delivered to the identified laboratories and centres by internal mail at the expense of the NHLS by the SHE Department. Any instruction on the use of the DVDs would be by means of SOPs.
- PortaCount Fit Tester, Fit testing requirement. NHLS will require the following supplies: five (5) PortaCount Pro+ Respirator Fit Tester with a 3 year calibration plan (PortaCount Pro+ which includes AC adapter with Universal Plug Set, 8026 Particle Generator, alcohol cartridge, alcohol fill capsule, storage cap, two zero check filters, Model 8016 alcohol supplies, 3/16 and 1/4 inch hose adapters, two spare alcohol wicks, 100 sampling probes, insertional probe, neck strap, carrying case, FitPro Test software CD, Flash memory drive (1GB), USB cable, operation and service manual and two-year warranty); seven (7) Fit Test Probe Kits (1kit includes 500 probes, 500 Pushnuts); six-thousand (6000) 3M or Kimberly Clark N95 respirators; six-thousand (6,000) respirator adaptors; and five (5) boxes of isopropyl alcohol (16x30ml bottles).

Metabiota will make every effort to procure required materials based on best value (cost, quality, and longevity). Metabiota anticipates that CLS will manage shipping, and all related costs (e.g., export compliance), of items procured CONUS to the Republic of South Africa. Metabiota will coordinate with CLS contractors through DTRA CBEP to ensure this process is executed in an effective and efficient manner.

The information contained herein is Metabiota PROPRIETARY information and may include Metabiota CONFIDENTIAL information and shall not be disclosed outside of the U.S. Government, as per the statement found on the cover page.

Other Direct Costs
Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for NHLS personnel for the period of performance for this engagement. Metabiota personnel performing on this project are already insured.

Subcontracts
A Subcontract will be issued to NHLS to support their labor requirements on this engagement, as well as materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support NHLS project personnel to facilitate implementation and conduct training activities in this effort. The proposed projects require domestic (South Africa) travel for test site introduction of the OHASIS pilot modules, and for the Fit testing training. The travel estimates in the budget reflect averaged costs for airfare, lodging, and meals to multiple different locations in South Africa for travel by NHLS project personnel. Metabiota does not anticipate any international travel of its USA staff to South Africa.

Conclusion
Metabiota is committed to supporting our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP AFRICOM in the implementation of the Biosafety and Biosecurity Training with the National Health Laboratory Services in South Africa. Metabiota will ensure, through strong project management and risk mitigation that the training will be executed in an efficient and timely manner delivering a top quality course geared to support enhanced biosurveillance and biosafety efforts in the region.

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Appendix A- Team Metabiota Overview

Metabiota, Inc. is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science, including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in 20 countries and offices in San Francisco, Washington, China, Canada, and Sierra Leone.

Metabiota currently supports a number of the Defense Threat Reduction Agency Cooperative Biological Engagement Program (DTRA CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. In these roles Metabiota provides support to U.S. Government (USG) Partners in reducing the risk of biological threats worldwide through a collaborative and agile approach to biological risk management.

In coordination with DTRA CBEP regional leadership and in-country partners, Metabiota has built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGO) whose respective aims could impact DTRA CBEP objectives.

Through this activity, Metabiota will engage South Africa's National Health Laboratory Services (NHLS) in order to direct technical support in the development and implementation of the biosafety and biosecurity (BS&S) initiatives. Established through legislation in 2001 to connect public health system laboratories, NHLS is the largest diagnostic pathology service in South Africa. Laboratory and related public health services are provided by the NHLS to over 80% of the population through a national network of laboratories in all nine provinces, employing over 6,700 people. NHLS activities comprise diagnostic laboratory services, research, teaching and training, and production of sera for snake antivenin, reagents, and media. Its specialized divisions include the National Institute for Communicable Diseases, National Institute for Occupational Health, National Cancer Registry and Antivenin Unit.

The information contained herein is Metabiota PROPRIETARY information and may include Metabiota CONFIDENTIAL information and shall not be disclosed outside of the U.S. Government, as per the statement found on the cover page.

OPTION YEAR - SOW Section 4.3, Task 3: Biosafety and Biosecurity Training with South

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: July 1, 2015
PERIOD OF PERFORMANCE: 16 May 2015 - 15 May 2016
PROJECT: NHLS BS&S

oaded based on MOD 18	Hours		Amount
nager	419	$	(b)(4); (b)(6)
(b)(4); (b)(6)	230	$	
	583	$	
	240	$	
	240	$	
Total Labor Costs (fully loaded):	**1,712**		
OTHER DIRECT COSTS *(fully loaded):*			
CLIN 1003 Materials		$	111,454.09
CLIN 1004 ODCs		$	4,092.47
CLIN 1005 Travel		$	15,024.00
Total Other Direct Costs (fully loaded):			(b)(4); (b)(6)
Total: Estimated Future OHE			

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 1-Jul-15
Project NHLS BS&S
Period of Performance: 16 May 2015 - 15 May 2016

CLIN No.	Labor Description	Cost	Total Hours	Total Billable Amount $
CLIN 1002	(b)(4); (b)(6)	$ (b)(4); (b)(6)	419	(b)(4); (b)(6)
CLIN 1002		$	230	
CLIN 1002		$	583	
CLIN 1002		$	240	
CLIN 1002		$	240	

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 1 Jul 15
Project NBLS BS&S
Period of Performance: 16 May 2015 15 May 2016

Biosafety Video

CLIN No.	Item	Cost (US Dollars)	Number of Req.	Total Billable Amount $
1003	iPAD Air Tablet	$ 602.07	25	$ 15,051.75
1003	DVD	$ 4.00	500	$ 2,000.00
1003	APPLE LIGHTNING TO USB CABLE (2 M	$ 35.04	25	$ 876.00
1003	Apple Lightning To Usb Cable	$ 23.12	25	$ 578.00
1003	APPLE 12W USB POWER ADAPTER	$ 20.96	25	$ 524.00
1003	DuraFolio Protective Cover for iPAD Air	$ 44.99	25	$ 1,124.75
1003	Portacount w. 3-yr calibration plan	$ 15,440.00	5	$ 77,200.00
1003	Respirators	$ 1.00	6000	$ 6,000.00
1003	Adaptors	$ 0.37	6000	$ 2,220.00
1003	Alcohol	$ 2.00	150	$ 300.00

(b)(4); (b)(6)

Fully Loaded Amnt:

(b)(4); (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 1-Jul-15
Project NHLS BS&S
Period of Performance: 16 May 2015 - 15 May 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance	$ 3,134.07	1	$ 3,134.07
1004				$ -
1004				$ -
1004				$ -
1001				$ -

(b)(4); (b)(6)

Fully Loaded Amnt:

(b)(4); (b)(6)

TRAVEL ESTIMATE COST

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 1-Jul-15
Proposal: NHLS BS&S
Period of Performance: 16 May 2015 - 15 May 2016

	Local	Local
Traveler(s):	SHE Staff	Grants Manager & Subject Matter Expert 1
Departure Location:	other NHLS site	Johannesburg
Destination:	Johannesburg	other NHLS site
Purpose:	Fit Testing	Equipment Testing
Airfare	$429.00	$429.00
Lodging	$117.00	$117.00
Meals / Incidentals	$50.00	$50.00
Incidentals (Visa)	$0.00	$0.00
# of Days	2	2
Total Per Trip	**$626**	**$626**
No. of trips	6	6
No. of persons	2	2
SUBTOTAL:	$7,512.00	$7,512.00

GRAND TOTAL
$15,024

USG Foreign Per Diem Rates

Location	Maximum Lodging	M&IE	Total
Johannesburg	$216.00	$89.00	$305.00
Cape Town	$227.00	$81.00	$308.00
Bloemfontein	$98.00	$61.00	$159.00
Durban	$170.00	$75.00	$245.00
Pretoria	$152.00	$80.00	$232.00

Sun City	$152.00	$72.00	$224.00
Other, South Africa	$119.00	$55.00	$174.00

WORKABLE HOURS 4

LABOR						COST					
NAME	Phase	TYPE	CATEGORY	DESCRIPTION	TOTAL	BILLABLE RATE	ACTUAL RATE	TOTAL BUDGET	EST ACTUALS AT BILLABLE RATE	VARIANCE	DBA
(b)(4); (b)(6)	PMO	FT	PM	Program Manager	419	(b)(4); (b)(6)					
	PMO	FT	Trainer	Trainer Supervisor	160						
	Equipment Maintenance	Sub	Grant Manager	SMF Program Manager	170						
	Equipment Maintenance	Sub	[illegible]	Finance Manager	40						
	Equipment Maintenance	Sub	[illegible]	Bookkeeper	40						
	Equipment Maintenance	Sub	SMF	IT Program Manager	240						
	Fit Testing	Sub	Grant Manager	SMF Program Manager	120						
	Fit Testing	Sub	Trainer	SMF Program Manager	170						
	Fit Testing	Sub	[illegible]	Occupational Hygienist	120						
	Fit Testing	Sub	[illegible]	Finance Manager	40						
	Fit Testing	Sub	[illegible]	Bookkeeper	40						

OPTION YEAR - SOW Section 4.3, Task 3: Biosafety and Biosecurity Training with South

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: July 1, 2015
PERIOD OF PERFORMANCE: 16 May 2015 - 15 May 2016
PROJECT: NHLS BS&S

oaded based on MOD 16	Hours		Amount
.nager	419	$	(b)(4); (b)(6)
(b)(4); (b)(6)	230	$	
	583	$	
	240	$	
	240	$	
Total Labor Costs (fully loaded):	**1,712**		
OTHER DIRECT COSTS *(fully loaded)*:			
CLIN 1003 Materials		$	111,454.09
CLIN 1004 ODCs		$	4,092.47
CLIN 1005 Travel		$	15,024.00
Total Other Direct Costs (fully loaded):			(b)(4); (b)(6)
Total: Estimated Future OHE			

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 1-Jul-15
Project NHLS BS&S
Period of Performance: 16 May 2015 - 15 May 2016

CLIN No.	Labor Description	Cost	Total Hours	Total Billable Amount $
CLIN 1002	(b)(4); (b)(6)	$ (b)(4); (b)(6)	419	(b)(4); (b)(6)
CLIN 1002		$	230	
CLIN 1002		$	583	
CLIN 1002		$	240	
CLIN 1002		$	240	

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 1 Jul 15
Project NBLS BS&S
Period of Performance: 16 May 2015 - 15 May 2016

Biosafety Video

CLIN No.	Item	Cost (US Dollars)	Number of Req.	Total Billable Amount $
1003	iPAD Air Tablet	$ 602.07	25	$ 15,051.75
1003	DVD	$ 4.00	500	$ 2,000.00
1003	APPLE LIGHTNING TO USB CABLE (2 M.	$ 35.04	25	$ 876.00
1003	Apple Lightning To Usb Cable	$ 23.12	25	$ 578.00
1003	APPLE 12W USB POWER ADAPTER	$ 20.96	25	$ 524.00
1003	DuraFolio Protective Cover for iPAD Air	$ 44.99	25	$ 1,124.75
1003	Portacount w. 3-yr calibration plan	$ 15,440.00	5	$ 77,200.00
1003	Respirators	$ 1.00	6000	$ 6,000.00
1003	Adaptors	$ 0.37	6000	$ 2,220.00
1003	Alcohol	$ 2.00	150	$ 300.00

(b)(4); (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 1-Jul-15
Project NIILS BS&S
Period of Performance: 16 May 2015 - 15 May 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance	$ 3,131.07	1	$ 3,134.07
1004				$ -
1004				$ -
1004				$ -
1004				$ -
			Sub-Total	$ 3,134.07

(b)(4); (b)(6)

(b)(4); (b)(6)

TRAVEL ESTIMATE COST

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 1-Jul-15
Proposal: NHLS BS&S
Period of Performance: 16 May 2015 - 15 May 2016

	Local	Local
Traveler(s):	SME Staff	Grants Manager & Subject Matter Expert 1
Departure Location:	other NHLS site	Johannesburg
Destination:	Johannesburg	other NHLS site
Purpose:	Fit Testing	Equipment Testing
Airfare	$429.00	$129.00
Lodging	$117.00	$117.00
Meals / Incidentals	$50.00	$50.00
Incidentals (Visa)	$0.00	$0.00
# of Days	2	2
Total Per Trip	**$626**	**$626**
No. of trips	6	6
No. of persons	2	2
SUBTOTAL:	**$7,512.00**	**$7,512.00**

GRAND TOTAL
$15,024

USG Foreign Per Diem Rates

Location	Maximum Lodging	M&IE	Total
Johannesburg	$216.00	$89.00	$305.00
Cape Town	$227.00	$81.00	$308.00
Bloemfontein	$98.00	$61.00	$159.00

Durban	$170.00	$75.00	$245.00
Pretoria	$152.00	$80.00	$232.00
Sun City	$152.00	$72.00	$224.00
Other, South Africa	$119.00	$55.00	$174.00

WORKABLE HOURS +

LABOR						COST				
NAME	Phase	TYPE	CATEGORY	DESCRIPTION	TOTAL	[illegible]	ACTUAL RATE	TOTAL BUDGET	EST ACTUALS AT [illegible]LE RATE	VARIANCE
(b)(4); (b)(6)	PMO	FT	PM	(b)(4); (b)(6)	[illegible]	(b)(4); (b)(6)				
	PMO	FT	Tr[illegible]		[illegible]					
	Equipment Maintenance	Sub	Grants Manage		[illegible]					
	Equipment Maintenance	Sub	K.SA		[illegible]					
	Equipment Maintenance	Sub	K.SA		[illegible]					
	Equipment Maintenance	Sub	SMB		[illegible]					
	Fit Testing	Sub	Grants Manage		[illegible]					
	Fit Testing	Sub	Tr[illegible]		[illegible]					
	Fit Testing	Sub	K.SA		[illegible]					
	Fit Testing	Sub	K.SA		[illegible]					
	Fit Testing	Sub	K.SA		[illegible]					

DBA		
	[illegible]	[illegible]
	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

OPTION YEAR - SOW Section 4.3, Task 3: One Health Epidemiology training in the

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: August 31, 2015
PERIOD OF PERFORMANCE: 16 May 2015 - 31 March 2016
PROJECT: OHE-SA

	Hours		Amount
oaded based on MOD 18			
nager	224.0	$	(b)(4); (b)(6)
(b)(4); (b)(6)	224.0	$	
	272.0	$	
	48.0	$	
	12.5	$	
	32.0	$	
Total Labor Costs (fully loaded):	**812.5**		
OTHER DIRECT COSTS *(fully loaded)*:			
CLIN 1003 Materials		$	663.20
CLIN 1004 ODCs		$	576.60
CLIN 1005 Travel		$	8,495.50
Total Other Direct Costs (fully loaded):			(b)(4); (b)(6)
Total: Estimated Future OHE			

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 31-Aug-15
Project OHE-SA
Period of Performance: 16 May 2015 - 31 March 2016

CLIN No.	Labor Description	Cost	Total Hours	Total Billable
CLIN 1002	(b)(4); (b)(6)	$	224.0	(b)(4); (b)(6)
CLIN 1002		$	224.0	
CLIN 1002		$	272.0	
CLIN 1002		$	48.0	
CLIN 1002		$	12.5	
CLIN 1002		$	32.0	

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 31 Aug 15
Project OIE-SA
Period of Performance: 16 May 2015 31 March 2016

CLIN No.	Item	Cost (US Dollars)	Number of Req.	Total Billable Amount $
CLIN 1003	general working office support supplies	$ 75.00	1	$ 75.00
CLIN 1003	General printing costs for materials	$ 200.00	1	$ 200.00
CLIN 1003	general presentation support materials	$ 100.00	1	$ 100.00
CLIN 1003	Cellular communication credit	$ 40.00	3	$ 120.00
CLIN 1003	internet and data usage	$ 45.00	3	$ 135.00
			Sub-Total	$ 630.00
				$ (b)(4) (b)(6)
				$ (b)(4) (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 31-Aug-15
Project OHE-SA
Period of Performance: 16 May 2015 - 31 March 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance	$ 441.57	1	$ 441.57
1004				$ -
1004				$ -
1004				$ -
1001				$ -
			Sub-Total	$ 441.57

(b)(4); (b)(6)

(b)(4); (b)(6)

TRAVEL ESTIMATE COST

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 31-Aug-15
Proposal: OHE-SA
Period of Performance: 16 May 2015 - 31 March 2016

	Local
Traveler(s):	PM, PC, SME III
Departure Location:	Washington, DC
Destination:	Johannesburg
Purpose:	working group meeting to facilitate host country approval of training materials
Airfare	$1,500.00
Lodging	$618.00
Meals / Incidentals	$400.50
Average Total Ground Transport per person	$283.33
Incidentals (Visa)	$0.00
# of lodging nights	3
# of Days	5
Total Per Trip	**$2,832**
No. of trips	1
No. of persons	3
SUBTOTAL:	$8,495.50
	GRAND TOTAL
	$8,496

USG Foreign Per Diem Rates

Location	Maximum Lodging	M&IE	Total
Johannesburg	$216.00	$89.00	$305.00

Average Ground Transport - Johannesburg
170.00 USD/day

WORKABLE HOURS

LABOR						COST		
NAME	Phase	TYPE	CATEGORY	DESCRIPTION	TOTAL	BILLABLE RATE	TOTAL BUDGET	DBA
(b)(4); (b)(6)	proposal development	FT	PM	Program Manager	16.5	(b)(4); (b)(6)		
	proposal development	FT	Trainer I	Project Coordinator	24.5			
	proposal development	FT	Trainer III	Training Coordinator	12.5			
	proposal development	FT	SME II	Epidemiology/Infectious Diseases	29.0			
	Phase 1.1	FT	**PM**	**Program Manager**	**39.5**			
	Phase 1.1	FT	Trainer I	**Project Coordinator**	**31.5**			
	Phase 1.1	FT	**SME II**	**Epidemiology/Infectious Diseases**	**43.0**			
	Phase 1.1	FT	**Trainer II**	**Training Coordinator**	**12.0**			
	Phase 1.1	FT	SME III	Clinician	6.0			
	Phase 1.2	FT	PM	Program Manager	32.0			
	Phase 1.2	FT	Trainer I	Project Coordinator	32.0			
	Phase 1.2	FT	SME II	Epidemiology/Infectious Diseases	64.0			
	Phase 1.2	FT	Trainer II	Training Coordinator	12.0			
	Phase 1.2	FT	SME III	Clinician	6.0			
	Phase 2	FT	**PM**	**Program Manager**	**52.0**			
	Phase 2	FT	Trainer I	**Project Coordinator**	**52.0**			
	Phase 2	FT	**SME II**	**Epidemiology/Infectious Diseases**	**52.0**			
	Phase 2	FT	Trainer II	**Training Coordinator**	**12.0**			
	Phase 2	FT	SME III	**Clinician**	**10.0**			
	Phase 3	FT	PM	Program Manager	84.0			
	Phase 3	FT	Trainer I	Project Coordinator	84.0			
	Phase 3	FT	SME II	Epidemiology/Infectious Diseases	84.0			
	Phase 3	FT	Trainer II	Training Coordinator	12.0			
	Phase 3	FT	SME III	Clinician	10.0			

OPTION YEAR - SOW Section 4.3, Task 3: One Health Epidemiology training in the

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: July 1, 2015
PERIOD OF PERFORMANCE: 16 May 2015 - 31 December 2015
PROJECT: OHE-SA

	Hours		Amount
oaded based on MOD 18			
ıager	224	$	(b)(4); (b)(6)
(b)(4); (b)(6)	224	$	
	272	$	
	112	$	
	128	$	
Total Labor Costs (fully loaded):	**960**		
OTHER DIRECT COSTS *(fully loaded):*			
CLIN 1003 Materials		$	1,157.97
CLIN 1004 ODCs		$	576.60
CLIN 1005 Travel		$	7,645.50
Total Other Direct Costs (fully loaded):			(b)(4); (b)(6)
Total: Estimated Future OHE			

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 1-Jul-15
Project OHE-SA
Period of Performance: 16 May 2015 - 31 December 2015

CLIN No.	Labor Description	Cost	Total Hours	Total Billable
CLIN 1002	(b)(4); (b)(6)	$ (b)(4); (b)(6)	224	(b)(4); (b)(6)
CLIN 1002		$	224	
CLIN 1002		$	272	
CLIN 1002		$	112	
CLIN 1002		$	128	

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 1 Jul 15
Project OIE-SA
Period of Performance: 16 May 2015 31 December 2015

CLIN No.	Item	Cost (US Dollars)	Number of Req.	Total Billable Amount $
CLIN 1003	office supplies	$ 100.00	1	$ 100.00
CLIN 1003	in country communications capability	$ 1,000.00	1	$ 1,000.00
			Sub-Total	$ 1,100.00
				$ (b)(4); (b)(6)
				$ (b)(4); (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 1-Jul-15
Project OHE-SA
Period of Performance: 16 May 2015 - 31 December 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance	$ 441.57	1	$ 441.57
1004				$ -
1004				$ -
1004				$ -
1001				$ -
			Sub-Total	$ 441.57

(b)(4); (b)(6)

(b)(4); (b)(6)

TRAVEL ESTIMATE COST

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 1-Jul-15
Proposal: OHE-SA
Period of Performance: 16 May 2015 - 31 December 2015

	Local
Traveler(s):	PM, PC, SME III
Departure Location:	Washington, DC
Destination:	Johannesburg
Purpose:	working group meeting to facilitate host country approval of training materials
Airfare	$1,500.00
Lodging	$618.00
Meals / Incidentals	$400.50
Incidentals (Visa)	$0.00
# of lodging nights	3
# of Days	5
Total Per Trip	**$2,549**
No. of trips	1
No. of persons	3
SUBTOTAL:	**$7,645.50**
	GRAND TOTAL
	$7,646

USG Foreign Per Diem Rates

Location	Maximum Lodging	M&IE	Total
Johannesburg	$216.00	$89.00	$305.00

WORKABLE HOURS

LABOR						COST		
NAME	Phase	TYPE	CATEGORY	DESCRIPTION	TOTAL	BILLABLE RATE	TOTAL BUDGET	DBA
(b)(4); (b)(6)	proposal development	FT	PM	Program Manager	24	(b)(4); (b)(6)		
	proposal development	FT	Trainer I	Project Coordinator	24			
	proposal development	FT	SME III	Epidemiology/Infectious Diseases	40			
	Phase 1.1	**FT**	**PM**	**Program Manager**	**32**			
	Phase 1.1	**FT**	**Trainer I**	**Project Coordinator**	**32**			
	Phase 1.1	**FT**	**SME III**	**Epidemiology/Infectious Diseases**	**32**			
	Phase 1.1	**FT**	**Trainer III**	**Training Coordinator**	**16**			
	Phase 1.1	**FT**	**SME III**	**Clinician**	**24**			
	Phase 1.2	FT	PM	Program Manager	32			
	Phase 1.2	FT	Trainer I	Project Coordinator	32			
	Phase 1.2	FT	SME III	Epidemiology/Infectious Diseases	64			
	Phase 1.2	FT	Trainer III	Training Coordinator	16			
	Phase 1.2	FT	SME III	Clinician	24			
	Phase 2	**FT**	**PM**	**Program Manager**	**52**			
	Phase 2	**FT**	**Trainer I**	**Project Coordinator**	**52**			
	Phase 2	**FT**	**SME III**	**Epidemiology/Infectious Diseases**	**52**			
	Phase 2	**FT**	**Trainer III**	**Training Coordinator**	**40**			
	Phase 2	**FT**	**SME III**	**Clinician**	**40**			
	Phase 3	FT	PM	Program Manager	84			18,38
	Phase 3	FT	Trainer I	Project Coordinator	84			07,72
	Phase 3	FT	SME III	Epidemiology/Infectious Diseases	84			215,47
	Phase 3	FT	Trainer III	Training Coordinator	40			
	Phase 3	FT	SME III	Clinician	40			
								41,57

Metabiota's Technical and Cost Proposal

"Personal Protective Equipment (PPE) Donning and Doffing Biosafety Training" and "Viral Hemorrhagic Fever (VHF) Clinical Recognition Training"

Technical Direction Number: TD-0001
Contract Number: HDTRA1-14-C-0104
CAGE Code: 56SP4
DUNS number: 828131156

Small US Business
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Executive Summary

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) team responsible for the United States African Command (USAFRICOM) is tasked with a mission of scientific study, experimentation, and training directed toward advancing or increasing knowledge and understanding of worldwide basic research standards to enhance capabilities and mitigate threats. In support of this effort, the CBEP AFRICOM team has identified the requirement for a multidisciplinary training event supporting 1) identification of clinical signs and symptoms associated with viral hemorrhagic fever (VHF) and 2) safely donning and doffing personal protective equipment (PPE) when managing especially dangerous pathogens, including causative agents of VHF in Cameroon. This engagement will support the preparedness and capabilities of clinical professionals operating in Cameroon to, ultimately, bolster biosafety and biosecurity (BS&S) in the clinical setting and to mitigate the threat of spreading causative agents of potentially dangerous diseases.

Detailed herein, the Metabiota team endeavors to fulfill this requirement through execution of five program elements, including 1) Project Initiation and Coordination; 2) Assessment of Historical Training Activities; 3) Adaptation of Training Materials; and 4) Training Implementation. Through the development of coherent training methodologies that are driven by on-the-ground experience and decades of expertise, as well as follow on engagements and deliverables, Metabiota is well-positioned to support training activities and scientific engagement in the USAFRICOM's region of responsibility.

Background

The U.S. Department of Defense (DoD) initiated the CBEP through DTRA in order to: secure and consolidate select agents; enhance Biosafety and Biosecurity (BS&S) standards; and strengthen the USAFRICOM region's ability to detect, diagnose, survey, and report emerging and re-emerging diseases of international security concern and that CBEP accomplishes these objectives in accordance with the World Health Organization (WHO) International Health Regulations (IHR) and World Organization for Animal Health (OIE) guidelines. The team further recognizes that to achieve its mission, CBEP works collaboratively with partner nations, U.S. Government (USG) agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health, promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner. Through the AEP Program, Metabiota aims to support the CBEP mission of reducing the potential impact of biological threats through enhanced biological safety and security, awareness of biological risks, and knowledge related to biological pathogens.

In support of this approach, the Metabiota team intends to administer a high-value training to support strategic CBEP objectives by increasing regional collaboration on topics critical to biological threat reduction, and enhancing the regional capacity to perform biorisk management and mitigate the threat of infectious disease events. The teams on-the-ground experience and decades of expertise makes us well-positioned to support the implementation of this workshop and all associated activities.

Purpose

Through AEP Technical Direction 001, DTRA CBEP AFRICOM Regional leadership tasked the Metabiota team with developing and implementing Personal Protective Equipment (PPE) Donning and Doffing Biosafety Training and Viral Hemorrhagic Fever (VHF) Clinical Recognition Training for Cameroon. The PPE Donning and Doffing Biosafety and VHF Clinical Recognition trainings are being developed for the purpose of training representatives from the Cameroon Ministry of Defense (MoD). The training cohort has tentatively identified 26 individuals for this training: one director of military health, four chief medical doctors, one program officer, and 20 nurses. Following completion of training, it is anticipated that these representatives will be able to provide this training to others in their respective fields (e.g., Training of Trainers approach). Moreover, all trainees will be evaluated for PPE donning/doffing proficiency as part of this training event. To accomplish this purpose, DTRA CBEP, through the AEP, will engage Metabiota and its network of Subject Matter Experts (SMEs), qualified trainers, scientific mentors and in-country expertise to implement these trainings, which will lead to effective capacity-building within Cameroon.

Objectives

Through the implementation of the PPE Donning and Doffing Biosafety and VHF Clinical Recognition trainings facilitated by Metabiota, MoD of Cameroon will be able to:

- Safely don and doff PPE to ensure overall safety to personnel and the environment when working with potentially dangerous pathogens;
- Understand and recognize clinical symptoms of VHF and take the necessary actions to mitigate risk of spreading disease (e.g., manage necessary PPE);
- Employ biorisk management best practices and principles based on internationally acceptable guidelines and standards, particularly with respect to enhancing the capacity to account for and safeguard pathogens of concern; and
- Conduct effective disease surveillance, detection, reporting, and response to rapidly diagnose bioterrorism and outbreaks.

Threat Reduction Outcomes

Training engagements are critical to capacity building efforts in host countries and supporting the early detection and response to emerging threats, thus safeguarding the world from infectious disease threats. Without completion of the training engagement, the region is subject to the following identified risks:

- Incomplete country and regional coverage for safely responding to VHF and, subsequently, mitigating the spread of disease;
- Increased security threats due to improper handling of pathogens of security concern; and
- Limited understanding of pathogens of concern circulating in the region.

The completion of the training will mitigate the identified risk factors by:

- Improving disease management through augmented BS&S practices when identifying and managing VHFs and other diseases of security concern;

- Implementing and improving biorisk management best practices and principles based on internationally acceptable guidelines and standards (enhancing the capacity to account for, safeguard, and secure pathogens of concern); and
- Increasing scientific capabilities through research collaboration and fostering an environment of scientific partnership.

Risk Management

In order to maintain course action and guarantee a training that will reduce regional risk and forward CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed below:

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
				Cost		
Technical Direction NTE Ceiling	The current budget with travel, management, procurement, and execution will exceed the ceiling for the technical direction	5	4	(b)(4); (b)(6)	Metabiota will monitor costs and work diligently to seek out the lowest costs possible for procurement and travel, as well as mitigate extended labor hours during events	**Med-High**
				Schedule		
30-day Review Period for Modified Presentations	If DTRA takes the full 30 day review period and requests modifications, a 2nd revision/review cycle may delay training implementation	2	3	Medium	Metabiota will schedule training to commence no fewer than 60 days after submitting draft presentations for DTRA review, and will continue planning for the training throughout the review period	(b)(4); (b)(6)
Emergent outbreak situations	If there is significant lag between procurement and training, an emergent outbreak could force the use of equipment and materials slated for the trainings.	1	4	Medium	Metabiota will work with DTRA and MoD to reschedule training event	
				Performance		
Ability to collaborate with MoD in Cameroon	A memorandum of stakeholder participation is required in order to collaborate with MoD	2	4	Medium	Metabiota team based in Yaoundé can help facilitate acquisition of memoranda	
Logistics Coordination	All equipment, trainers, facilities, and trainees must be available simultaneously to successfully execute training.	4	4	(b)(4); (b)(6)	Metabiota will engage a known, local logistics organization to provide in-country support with rapid turn-around and solid track record in supporting USG operations, and will work closely with CLS/single shipper as needed	
Appropriate-ness of training for MoD	Without knowing the trainee list and their backgrounds, training	2	3		Metabiota team based in Yaoundé will communicate with MoD stakeholders to	

participants	may be either partially redundant or partially ineffective due to lack of prerequisite knowledge				inform modifications to training materials	(b)(4); (b)(6)

Identifying and acknowledging the risks associated with not implementing this training, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Management Approach

Introduction

Metabiota will employ its existing organizational leadership to interface with the Regional Science Manager and Country Manager, as needed to direct the operational and administrative support required to ensure implementation of the PPE Donning and Doffing Biosafety and VHF Clinical Recognition trainings. Our Program Manager will oversee administrative and operational functions, with the support of a project manager, travel coordinator, SMEs, trainers, and mentors to ensure that all aspects of cost, schedule, and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Project Team Structure

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the Program Manager, Project Coordinator, Travel Coordinator, and SMEs that will be tasked with specific assignments to support the development and implementation of training based on their administrative and scientific expertise. This team of experts will ensure the overall project management and tasks associated with the training are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.

(b)(4); (b)(6)

Initiation

Following guidance from CBEP AFRICOM leadership, and by working with experienced, local subcontractors based in Yaoundé, Cameroon, the Metabiota team will endeavor to understand the scale and scope of historical trainings (*e.g.*, VHF, BS&S, PPE) by holding a stakeholders meeting with MoD personnel. Information garnered from this meeting may help to identify those topics and training approaches, which may potentially guide the modification of existing DTRA training presentations. Upon approval of the modified training presentations by DTRA, Metabiota will move into the planning and execution of the training.

Planning and Design

Metabiota will identify the required qualified trainers to facilitate the training from its cadre of experts and will engage the trainers to evaluate and make necessary modifications to the existing training presentations provided by DTRA, and by referencing gleaned from the landscape report. Metabiota anticipates a quick turnaround for final documents, which will result in successful execution of the events.

The Metabiota team will coordinate with both DTRA CBEP and key Cameroonian stakeholders to initiate efforts in a collaborative and forward moving process. Metabiota will endeavor to ensure that Training Event Plans (TEPs) and Cable Clearance Requests (CCRs) are initiated and completed in a timely fashion, and that Training Trip Reports (TTRs) are submitted efficiently. Metabiota will provide the necessary materials to key stakeholders to ensure that the participants are identified and trained according to their regional requirements. Metabiota will maintain frequent communication with regional and country leads during all phases of planning and implementation to ensure continued smooth operations and engagement.

In addition to modifying the presentations, Metabiota will work with Cooperative Threat Reduction (CTR) Logistics Support (CLS) contractors to determine in-country logistical needs to facilitate the training events to include travel and transportation, procurement of materials and supplies, conference arrangements, and other operational requirements necessary to ensure proper execution. To ensure local logistics are successfully managed, Metabiota may engage local expertise at the very early phases of planning to facilitate all in-country needs. Metabiota will maintain communication with regional and country leads during all phases of planning, and implementation to ensure smooth operations and successful engagement.

Execution

The core project management team will maintain oversight and implementation of the project at all times and will ensure rapid execution of the training event, tracking objectives to ensure the project stays on schedule to complete the training exercises. The project will be managed according to the phased implementation plan and will be course corrected, as needed to ensure target end-goals are reached. The following tools will be used to guarantee the project schedule will be maintained:

Project Administration:

1. Weekly team meetings and conference calls will be held to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Coordinator and will include the PM and AEP leadership, as needed based on the requirements and stage of implementation.
2. Routine calls and communication via email will be held between CBEP country leadership and Metabiota to provide routine status updates and ensure training implementation.

Project Reporting:

1. Weekly status reports will be provided by the PM to senior Metabiota leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction, as needed to ensure training goals are met.

Monitoring and Controlling

1. Routine risk assessment will be performed internally among the Metabiota project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with CBEP regional leadership to ensure the project remains on track and is implemented according to standard.
3. Routine oversight and coordination will be performed to ensure subcontractors are meeting contract requirements to ensure successful planning and execution of the training. Monitoring will include both administrative and fiscal oversight.

Completion

Maintaining a focused project schedule with routine meetings and communication with CBEP regional leadership allowing for continued coordination, while maintaining targeted objectives, Metabiota will drive the project to completion by mid-December with the execution of the one-week training event and subsequent post-training proficiency testing events. Following completion of the training, review, final validation, and a back-and-forth dialogue with CBEP regional leadership, Metabiota will provide required training trip report deliverables and after action reports to allow for lessons learned and continuation of solid execution and implementation of activities. Metabiota believes that the experience and management it will bring to this project, in collaboration with CBEP will guarantee success.

Technical Approach

Introduction

Metabiota will, in coordination with DTRA CBEP AFRICOM, provide PPE Donning and Doffing Biosafety Training and VHF Clinical Recognition Training in Yaoundé, Cameroon. Metabiota shall utilize existing DTRA Donning and Doffing of PPE and VHF Clinical Recognition training presentations. To ensure effective dissemination of information, Metabiota shall engage project stakeholders to identify in-country training needs. Leveraging this information, Metabiota will tailor DTRA CBEP provided training materials to ensure all materials are relevant and current for the needs of MoD in Cameroon.

Phase 1: Project Initiation and Coordination

As outlined in the Planning and Design section (above), Metabiota will leverage a Program Management team to maintain all administrative and operations functions associated with implementing this training event, as they pertain to cost, schedule, and performance. Additionally, this Team will identify and secure the necessary technical support (*e.g.*, SMEs, trainers, mentors) needed to ensure adaptation and delivery of training materials is accurate and suited to the needs of the trainees and MoD of Cameroon.

Phase 2: Modification of Training Materials

While the training materials provided are technically correct in the subject material presented (PPE donning and doffing; introduction to viral hemorrhagic fevers), Metabiota believes that the materials are incomplete and, moreover, their use as is could be detrimental to the Cameroonian trainees for multiple reasons. For example, the VHF materials have an emphasis on Crimean-Congo Hemorrhagic Fever (CCHF), as opposed to more relevant and severe pathogens, such as filoviruses (*e.g.*, Ebola and Marburg), which have emerged in neighboring countries. Tailoring materials to include more geographically relevant diseases and to a format which has been previously employed by Cameroon will promote institutionalization of the training materials and subject matter. Additionally, training PPE donning and doffing without placing it in a larger biorisk mitigation context may actually lead to unsafe practices. Specifically, the materials were designed to be employed in a newly built high-containment Central Reference Laboratory, which may not directly correlate to use in existing Cameroonian facilities. Moreover, the materials do not appropriately address additional components of donning and doffing practices, including decontamination, establishment and use of isolation and quarantine zones. Updating all training materials to be culturally aware and geographically relevant will bolster overall training success.

The team will collaboratively seek to understand 1) if any similar training events have been implemented, including lessons learned, 2) current needs of the stakeholders, 3) relevant information to bolster acceptance of training, 4) any perceived gaps in training, which may impact understanding/receipt of information presented as part of this training. This information will be used to guide potential modifications to the existing DTRA presentations for PPE Donning and Doffing Biosafety Training and VHF Clinical Recognition Training. To obtain this information, a meeting in Yaoundé will take place during the week of 13-17 July, the Metabiota Cameroon team, a DTRA representative, and invited MoD representatives will discuss and determine if there are any existing trainings similar to the PPE Donning and Doffing and VHF Clinical Recognition trainings. This meeting is subject to DTRA and MoD availability, and in the event that any party is unable to attend the meeting, Metabiota will attempt to gather the necessary information through other means. The team will also evaluate the existing DTRA presentations for differences and compatibilities with Cameroonian laboratory infrastructures, practices, and PPE. All of this information will be compared and contrasted against the DTRA presentations, so that the presentations may be modified to maximize the benefit to the Cameroonian training participants.

It is anticipated that any modifications to the training materials will be completed within a two-week period. At this time, Metabiota will submit the updated presentations to DTRA. The presentations will then undergo the required 30-day review by DTRA; the approved, finalized

presentations will be returned to Metabiota and training implementation dates will be finalized. Additionally, Metabiota will coordinate between administrative, technical, and in-country teams to identify an agenda that meets the needs of the training participants.

Deliverables:

- Deliverable #1: Modified DTRA Training Presentations (potential)
- Deliverable #2: Training Agenda and Schedule

Phase 3: Coordination and Implementation of Training

After submitting the modified presentations to DTRA for their review, the team will begin to coordinate with CLS contractors for the training to take place in Yaoundé, Cameroon in October 2015. If requested, the Metabiota team will serve as a resource for CLS to provide recommendations pertinent to training implementation, including training venue, as well as hotel(s) for the trainers, trainees, and administrators. Metabiota will complete the required CLS form to ensure that local transportation, per diem, and other logistics are taken care of for trainees.

The current assumption is that the availability of trainees is limited, and thus the training will be organized such that it takes place over the span of three days. Metabiota regards this as the minimum amount of time required to conduct the requested training. If, as a result of the information gathering in phase 2, it is determined that the logistics of transporting trainees to Yaoundé will permit, the duration of the training may be extended an additional day. Activities for the week will be outlined in the final agenda and schedule (Deliverable #2).

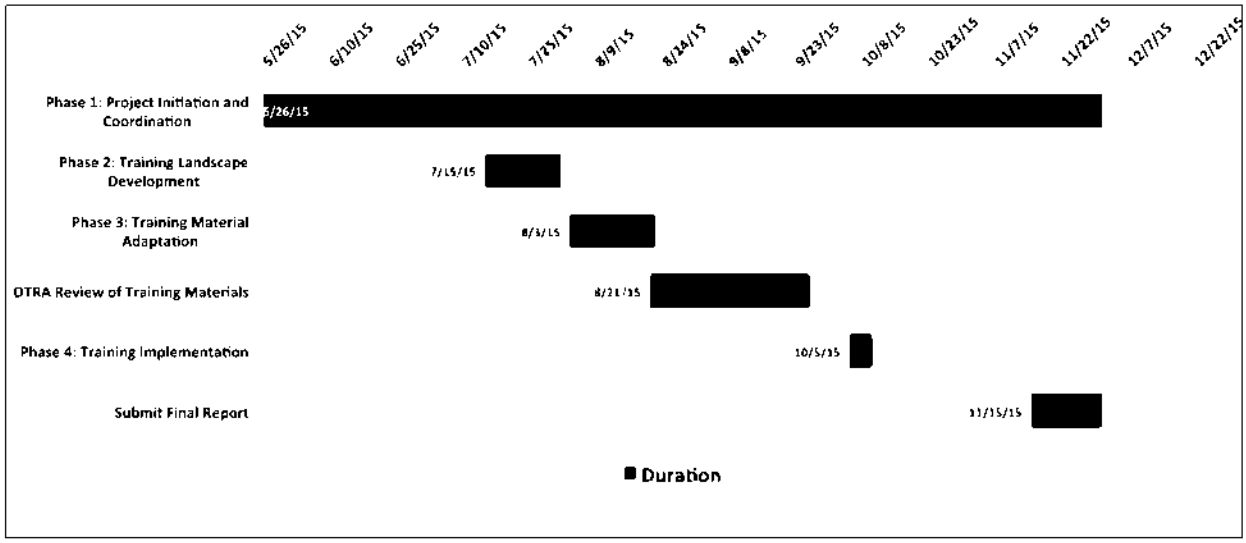
Deliverables:

- Deliverable #3: Training Report

Communications Protocols

Metabiota will maintain open communications with international collaborators necessary for implementing the training, to include regional partners facilitating the training engagement and logistics. In addition, Metabiota will maintain routine communication with CBEP to ensure they have full visibility on the training engagement, status and process of execution.

Timeline



Cost Management

The Metabiota team and all partners will maintain an intense focus on cost management to ensure that the training is delivered at a reasonable cost to the government. Our team will ensure accurate and responsive financial reporting and will facilitate cost savings to the Government wherever possible. Metabiota will follow procurement regulations ensuring the best price is received under the time constraints using all means available.

Budget Narrative

The Metabiota AEP contract vehicle has been changed to a Time & Materials (T&M) contract in the option year (16 May 2015 – 15 May 2016).

Period of Performance

The Period of Performance for this effort is May 16, 2015 to November 30, 2015.

Labor

Costs for direct labor to support this activity is required for the following personnel:

Metabiota Program Manager – Labor for the PM is estimated at 10% effort from June through November. The Metabiota PM will oversee the planning and execution of all program objectives towards the completion of DTRA CBEP goals at both the regional level and specifically for this project. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program

remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As some of our proposed Trainers are independent consultants or subcontractors through Global Viral and Mosaic, the Metabiota PM is also responsible for ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As these Trainers also are largely unfamiliar with DoD contracting, the Metabiota PM will assist the Trainers and/or their organizations with adhering to DoD contracting requirements, to include DCMA and DCAA compliance, developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the training event. The Metabiota PM will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

The Metabiota PM will lead coordination between the information-gathering team in Cameroon and the training planning team. This coordination will be to ensure that key information relevant to the adaptation of training materials and planning of the training event is captured and accounted for in a timely manner. The PM will oversee training event planning and execution taking into account information gathered and the needs of all stakeholders. Lastly, the PM will ensure all required project closeout activities occur in a timely fashion.

Metabiota Training Manager (Trainer III, one person) Labor for the Training Manager is estimated at 1 hour per week from June through November. The Trainer III will assist in coordinating, planning, and executing the training, to include assisting in management of deliverables and tracking of project requirements. The Metabiota Training Manager also participates in proposal development. Minimal hours are budgeted for every DTRA CBEP funded training effort to support this position. In this regard, Metabiota ensures consistency and accuracy associated with the development of all required training materials and training preparations.

Metabiota Training Coordinator (Trainer II, one person) Labor for the Training Coordinator is estimated at 15% effort from June through November. The Metabiota Training Coordinator will aid the PM in the planning and execution of project objectives, as well as participating in proposal development. The Trainer II will provide remote support for coordinating and running the meeting with Ministry of Defense (1/2 day meeting). The Trainer II will support training material adaptation by facilitating communications with the Metabiota Cameroon team as well as leveraging their own expertise to ensure that the correct questions are being asked of the Cameroon Ministry of Defense. The Trainer II will also assist the PM in establishing subcontracts with Global Viral, Mosaic, and the independent consultants to include SOW and budget development. Please note that this individual will not travel to Cameroon or participate in any training implementation.

The Trainer II will facilitate and participate in communications with the information-gathering team in Cameroon. This communication will be to ensure that key information relevant to the adaptation of training materials and planning of the training event is captured and accounted for in a timely manner. The Trainer II will drive training event planning and execution taking into

account information gathered and the needs of all stakeholders in conjunction with the PM and Training Manager. Lastly, the Trainer II will assist the PM with all required project closeout activities.

Metabiota Scientific Mentor (Two people) – Labor for the Scientific Mentors are estimated at 40 hours for training material adaptation (one person), and 42 hours for training implementation (one person, bilingual French and English). The Metabiota Scientific Mentors will leverage their comprehensive VHF and PPE knowledge to lead the adaptation and delivery of training materials, as discussed in the technical approach (Phase 2, p.9). The Scientific Mentors will use their expertise to tailor the training materials to provide as comprehensive, culturally aware, geographically relevant, and safe training event. To effectively achieve this task, the Scientific Mentors will compile and collate information obtained from the Metabiota team in Cameroon pertaining to both the Ministry of Defense's previous trainings and Cameroon's cultural norms. The bilingual Scientific Mentor will be part of the team implementing in-country training, to include set-up, training, and post-training reporting.

Metabiota, Global Viral, and Mosaic Trainers I & II – These two labor categories are being used to provide paybanding based on the nationality and home locations of the individuals identified. Metabiota is proposing the use of four trainers in total (one Metabiota Scientific Mentor, two Metabiota Trainer I, and one Mosaic Trainer II) to support the actual training event, ultimately ensuring an effective trainer:trainee ratio. However, some personnel will be used solely to provide support to activities leading up to the actual training event. All trainers for the October training event are fluently bilingual (English and French) and are considered VHF subject matter experts. These trainers will engage Ministry of Defense trainees over the course of a week in large and small format settings to implement lecture and practical activities associated with project objectives. Each of the trainers for the actual training event have the same training responsibilities are will work as a cohesive unit to ensure trainees are properly educated to safely operate in hazardous environments. Using Anglophone and Francophone trainers will ensure that dissemination of technical information is not lost or in any way altered through a translator.

Metabiota Trainers I (two individuals): Labor for the Metabiota Trainers I is estimated at 42 hours per trainer and budgeted for training implementation and, to a limited extent, may be used to review the final translation of all training materials for technical accuracy. It is anticipated that the Metabiota Trainers I (in addition to a scientific mentor) will be used to aid in conducting the in-country training, to include set-up, training, and post-training reporting. Metabiota Trainers I will coordinate with the Scientific Mentor and Mosaic Trainer II prior to the training event to ensure that the training is delivered in a cohesive manner. Metabiota Trainers I will provide feedback and support to the PM in drafting deliverables such as the training trip report and final project summary report.

Global Viral (GV) Trainer II (one person): Labor for the GV Trainer II is estimated at 40 hours over all phases of contracting, project implementation, and project closeout. Originally billed as a Subject Matter Expert II (same pay scale as Trainer II), the GV Trainer II will provide remote support for coordinating and running the meeting with Ministry of Defense (1/2 day meeting). The GV Trainer II will use his knowledge of Cameroon and pre-

existing relationships to facilitate gathering information that will be used to tailor the training materials and provide support, as needed, to set up and facilitate the training event. The GV Trainer II will also be responsible for working with the Metabiota PM to understand the implications of DoD and DTRA CBEP regulations on the work to be performed by GV, as well as reaching an agreement on the SOW and budget for the GV subcontract. The GV Trainer II will serve as a reachback resource for the CLS contractor should they require advice towards any logistical arrangements in Cameroon. The GV Trainer II will also provide feedback and support to Metabiota in drafting deliverables as needed.

Global Viral Trainer I (one person): Labor for the GV Trainer I is estimated at 68 hours over all phases of contracting and project implementation, with the majority of the time spent in the information gathering phase of the project and a smaller but still important role leading up to actual training event. The GV Trainer I will provide on-the-ground support for coordinating and running the meeting with Ministry of Defense (1/2 day meeting). Accomplishing this will include conducting regular communications with Ministry of Defense to establish a time and place for the meeting, working with the Metabiota PM, Training Coordinator, Scientific Mentor, and Mosaic Trainer II to develop a list of key information that should be obtained, and communicating with Ministry of Defense and other Cameroon stakeholders to acquire relevant information. Information gathered will be communicated back to the Metabiota team to support training material adaptation and training event planning. The GV Trainer I will assist all stakeholders, including Cameroonian participants, as an on-the-ground liaison for this training event, as well to serve as a reachback resource for the CLS contractor should they require advice towards any logistical arrangements in Cameroon associated with execution of the training event. The GV Trainer I will not serve as an actual trainer for the training event. The GV Trainer I will also provide Metabiota with feedback on his work during the information gathering phase and run-up to the training event, in order to support drafting of deliverables such as the final project summary report.

Mosaic Trainer II (one person): Labor for the Mosaic Trainer II is estimated at 84 hours over all phases of the work, with 42 hours allotted for training implementation, and the remainder of the time allotted for contracting and information gathering. The Mosaic Trainer II will provide on-the-ground support for coordinating and running the meeting with Ministry of Defense (1/2 day meeting). Accomplishing this will include conducting regular communications with Ministry of Defense to establish a time and place for the meeting, working with the Metabiota PM, Training Coordinator, Scientific Mentor, and GV Trainer I to develop a list of key information that should be obtained, and communicating with Ministry of Defense and other Cameroon stakeholders to acquire relevant information. Information gathered will be communicated back to the Metabiota team to support training material adaptation and training event planning. After the CLS contractor translates the adapted training materials, Mosaic Trainer II will provide a final review of the translated materials to ensure no technical knowledge was lost during the translation process. The Mosaic Trainer II will serve as a reachback resource for the CLS contractor should they require advice towards any logistical arrangements in Cameroon. The Mosaic Trainer II will also be responsible for working with the Metabiota PM to understand the implications of

DoD and DTRA CBEP regulations on the work to be performed by Mosaic, as well as reaching an agreement on the SOW and budget for the Mosaic subcontract. It is anticipated that the Mosaic Trainer will be leveraged as one of the trainers at the in-country training event, to include set-up, training, and post-training reporting. Mosaic Trainer II will coordinate with the Scientific Mentor and Metabiota Trainers I prior to the training event to ensure that the training is delivered in a cohesive manner. Mosaic Trainer II will also provide feedback and support to Metabiota in drafting deliverables such as the training trip report and final project summary report, as needed.

Additional costs for direct labor supporting the Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 Program Management Office.

Materials

Materials and supplies will be provided by DTRA to support training efforts, to include training materials and PPE.

DTRA Translation Services will be utilized to translate developed materials and provide interpretation services during the training events. Our trainers and subject matter experts, all Francophones, will review final drafts to ensure effective translation of technical information by performing translation of training materials. It is not anticipated that simultaneous translation services will be required during training implementation, as trainees and trainers are all Francophones.

Conference Services are required, as a venue is needed for the training events to house a total of 26 participants, 2-3 trainers, and additional Metabiota and CBEP personnel attending the event. Conference services will include on-site catering to facilitate completion of the training within an efficient timeframe. As some meals will be provided, the per diem rates for all attending will be reduced accordingly. A request will be submitted to CLS to support the aforementioned efforts.

Other Direct Costs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for trainers during the period of performance for this engagement. Metabiota personnel performing on this project are currently insured.

Subcontracts

Subcontracts will be issued to Global Viral and ETS Mosaic for time provided by their trainers and subject matter experts, administrative and operations support, as well as materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested to support the following project stakeholders: Scientific Mentor and two trainers to facilitate implementation and conduct training activities for this effort (tentatively October 2015). Metabiota's Scientific Mentor will be traveling from the Washington, D.C. area to Yaoundé, Cameroon. Trainers will be traveling from France and/or W. Africa to Yaoundé, Cameroon. All travelers will be coordinated to support implementation of the aforementioned training event (7 to 8 days for each traveler: 2 days travel to Yaoundé, 3-4 days for the training, 2 days return travel). The proposed travel budget represents estimates based on the longest required trip.

All travel logistics associated with movement of trainees will be managed via CLS.

Conclusion

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP AFRICOM in the implementation of the Personal Protective Equipment Donning and Doffing Biosafety Training and Viral Hemorrhagic Fever Clinical Recognition Training in Cameroon. Metabiota will ensure, through strong project management and risk mitigation that the training will be executed in an efficient and timely manner delivering a top quality course geared to support enhanced biosurveillance and biosafety efforts in the region.

Team Metabiota Overview

Metabiota, Inc., is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science, including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in 20 countries and offices in San Francisco, Washington, China, Canada, and Sierra Leone.

Metabiota has executed scientific objectives on a number of Department of Defense contracts, and understands the Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) mission is to safeguard the United States and its allies from weapons of mass destruction (WMD) including chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) by providing capabilities to reduce, eliminate, and counter the WMD threat and mitigate its effects. The Company recognizes that DTRA's Cooperative Threat Reduction (CTR) Program is a critical component of the U.S. Government's (USG) approach to threat reduction, which promotes collaboration with international and non-governmental partners in order to advance regional engagement and multilateral cooperation while developing locally appropriate, sustainable programs. Through the Academic Engagement Partnership (AEP) Program, Metabiota aims to support CTRs CBEP mission of reducing the potential

impact of biological threats through enhanced biological safety and security, awareness of biological risks, and knowledge related to biological pathogens.

To ensure a successful event, Metabiota, in coordination with DTRA CBEP regional leadership and in country partners, have built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGO) whose respective aims could impact CBEP objectives.

Metabiota will team with their non-profit "sister company" Global Viral (GV), which maintains an office and staff in Yaoundé, Cameroon. Since 2008 Global Viral has been enabling global communities to develop and manage their own challenges through scientific capacity development and education and research projects in scientific advancement and public health. GV currently provides support for global policy leaders with a network of expertise in global infectious disease threats. GV has been providing specialized research and leadership providing new insights into the diversity of human pathogens and the biological and behavioral emergence of novel pathogens. In addition GV provides experience in supporting research laboratories and field sites. GV has developed relationships with the local government, NGOs, and medical providers in Cameroon, which will be leveraged to ensure effective navigation of the local landscape and implementation of the training course. (globalviral.org)

Metabiota will also team with another frequent and long-time partner in Cameroon, ETS Mosaic ("ETS" is the Cameroonian equivalent for company in English). Mosaic has provided technical assistance for research, project management and capacity building in central Africa since 2010. Mosaic has provided services within awards from USAID, UCDavis, DoD GEIS and private foundations in collaboration with governments, universities, companies and international organizations. (www.mosaic.cm)

From: (b)(6)
To:
Cc:

Subject: Metabiota AEP TD-004_MESA
Date: Wednesday, May 27, 2015 5:54:44 PM
Attachments: CTR-CBEP_Metabiota AEP TD-004_MESA_27May2015.pdf

Hi (b)(6)

Please find attached Technical Direction for implementing a workshop on the epigenetics and genomics of infectious disease in the Middle East and South Asia. A proposal and estimated budget for this activity is requested NLT 02 June 2015. Please feel free to communicate directly with the CBEP POCs for this TD (b)(6) (b)(6) you have any questions about the requirement.

Cheers,

(b)(6)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

May 26, 2015

Metabiota
Mr (b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for the Implementation of an Epigenetics and Genomics of Infectious Diseases Workshop in the Middle East South Asia Region.

Dear (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to administer a two-day workshop in the Fall of 2015 on Epigenetics and Genomics of Infectious Diseases in the Middle East South Asia Region in accordance with SOW Section 4.3, Task 5. The workshop will include plenary talks, topic-focused sessions, poster sessions, and training sessions. The plenary talks will highlight recent advances in epigenetics, genetics, and the technologies and skills needed to study epigenetics. The topic-focused sessions will provide opportunities for participants to learn about specific areas of research, such as epigenetic regulation of host immune system genes by bacterial toxins. The poster sessions will allow scientists to identify prospective partners for research cooperation. Finally, the training sessions will describe processes of initiating and maintaining international scientific collaboration, grant writing, and risk analysis. A proposal and estimated budget not to exceed $500,000 for implementing this requirement is requested by 02 June 15.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with DTRA CBEP Points of Contacts listed below.

CBEP POCs: CENTCOM Regional Lead (b)(6)

(b)(6)

Attachment List: None

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

Sincerely,

5/27/2015

X (b)(6)

(b)(6)

COR/J3CTB Deputy Chief Scientist

Signed by: (b)(6)

Cc: (b)(6)

(b)(6)

(b)(6)

From: (b)(6)
To:
Cc:

Subject: Metabiota AEP TD-005_Iraq
Date: Wednesday, May 27, 2015 5:54:45 PM
Attachments: CTR-CBEP_Metabiota AEP TD-005_Iraq_27May2015.pdf

H(b)(6)

Please find attached Technical Direction for implementing distance learning on passive surveillance for animal disease in Iraq. A proposal and estimated budget for this activity is requested NLT 10 June 2015. Please feel free to communicate directly with the CBEP POCs for this TD (b)(6) if you have any questions about the requirement.

Cheers,
(b)(6)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

May 26, 2015

Metabiota
(b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for the Implementation of Distance Learning on the Basics of Passive Surveillance for Animal Diseases in Iraq, with a Special Emphasis on Recognition of High Consequence Pathogens.

Dea (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to administer an eighteen-month distance learning course covering the Basics of Passive Surveillance for Animal Diseases in Iraq, with a Special Emphasis on Recognition of High Consequence Pathogens in accordance with SOW Section 4.3, Task 3. The course will build disease diagnosis expertise among a core group of veterinarians, from the field, from public health, and from the laboratory, using a combination of in-person trainings and weekly web-based modules. The program will entail didactic, interactive, and case-based materials to work through the basic concepts of disease pathogenesis, the development of lessons, the significance of lessons in terms of disease, and how these lessons relate to the clinical disease in an animal. Both endemic and high consequence pathogens will be covered to help participants distinguish key aspects that differentiate them, and to help participants appreciate the most appropriate samples to ensure accurate diagnosis. A proposal and estimated budget not to exceed $400,000 for implementing this requirement is requested by June 10, 2015.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with DTRA CBEP Points of Contacts listed below.

CBEP POCs: Iraq Country Manager (b)(6)
(b)(6) M Regional Science Manager (b)(6)

Attachment List: None

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

Sincerely,

5/27/2015

X (b)(6)

(b)(6)

COR/J3CTB Deputy Chief Scientist

Signed by: (b)(6)

Cc: (b)(6)
(b)(6)
(b)(6)
(b)(6)

From: (b)(6)
To:
Cc:

Subject: Metabiota AEP TD-006_Phippines
Date: Wednesday, June 03, 2015 12:43:59 PM
Attachments: CTR-CBEP_Metabiota AEP TD-006_Philippines_3June15.pdf

Hi (b)(6)

Please find attached Technical Direction to provide a research collaborator and support implementation of a Nipah virus-focused research activity project. A proposal and estimated budget for this activity is requested NLT 19 June 2015. Please feel free to communicate directly with the CBEP POCs for this TD (b)(6) if you have any questions about the requirement.

Cheers,

(b)(6)
Deputy Chief Scientist
Cooperative Biological Engagement Program
Cooperative Threat Reduction
Defense Threat Reduction Agency
Email: (b)(6)
Phone:
Mobile

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

June 3, 2015

Metabiota
(b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for Nipah Research Activity Project (RAP)

Dear (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide a research collaborator or collaborators to assist scientists from the Research Institute of Tropical Medicine (RITM) in the Philippines in executing a preliminary study on paramyxoviruses in accordance with SOW section 4.3, Tasks 5 & 6.

This requirement is derived from discussions held during the bat-borne surveillance training event conducted in Singapore in May 2014. Specifically, henipaviruses and potentially related strains in Province Sultan Kudarat are to be the focus of the study. Research collaborators will, in conjunction with scientists at RITM, develop a detailed research plan (including budget) for preliminary surveillance studies of bats in province Sultan Kudarat. The research plan and budget must be submitted for review by DTRA CBEP prior to the initiation of any experimental work. The technical proposal should include comprehensive descriptions of the procedures planned, including field, laboratory, and data analytics, as well as a discussion of biosafety and biosecurity risks and mitigations. Additionally, the Protocol Risk Assessment Tool should be completed and submitted simultaneously. The project should address the following objectives:

1. Identify the reservoir and putative host range for Nipah or related viruses in the Philippines
2. Examine the seroprevalence of Nipah or related viruses in bats, peridomestic animals and humans in the Philippines
3. Understand the risk factors for cross species transmission, including which animals may be amplifying reservoirs

The project should also adhere to CBEP engagement parameters including the but not limited to the requirement for MOUs and/or MTAs with partner country institutions/ministries, and the desire to enhance partner country capabilities in a sustainable manner.

Research collaborators should be accomplished scientists with significant experience in safe and ethical capture of bats for the molecular biosurveillance of bat-borne parasites to include Nipah and Hendra. Research collaborators should have access to and use validated methods and

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

protocols for PCR testing of samples suspected to contain henipaviruses. Research collaborators should have access to and relationships with well-regarded facilities known to have safely and successfully conducted research on Nipah and Hendra and that are capable of safely and securely storing strains of those and related viruses.

The research work proposed should not exceed 12 months and $200,000. A proposal and estimated budget for implementing these requirements is requested by June 19, 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with the DTRA CBEP Points of Contact listed below.

CBEP POCs: CBEP Philippines Country Manager, (b)(6) (b)(6) CBEP Regional Science Lead, (b)(6)

Attachments List: Protocol Risk Assessment Tool (PRAT)

Sincerely,

6/3/2015

X

(b)(6)
COR/J3CTB Deputy Chief Scientist
(b)(6)

Cc (b)(6)
(b)(6)

Metabiota's Technical and Cost Proposal

"DTRA/CBEP Review and Tailor One Health Epidemiology Training Materials for Republic of South Africa (OHE-RSA)

Technical Direction Number: TD-010
Contract Number: HDTRA1-14-C-0104
CAGE Code: 56SP4
DUNS number: 828131156

Small US Business
Metabiota, Inc.

METABIOTA

One Sutter Street, Suite 600 San Francisco, CA 94104

Metabiota Points of Contact
Director (b)(6)
Email
Deputy Director:
Phone
Email
Program Manage
Phone
Email
Program Operati
Phone
Email

DTRA CBEP Points of Contact
South Africa Country Manager: (b)(6)
Phone (b)(6)
Email
Regional Science (b)(6) (b)(6)
Phone
Email
Contracting Offic (b)(6)
Phone
Email

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Executive Summary

In response to Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) regional leadership tasking via the Academic Engagement Partnership (AEP) contract vehicle, Technical Direction 010, Metabiota, Inc. seeks to support the DTRA CBEP mission through the conduction of a tailored review and, if found necessary, modification of existing One Health Epidemiology (OHE) Walter Read Army Institute of Research (WRAIR) Training Modules One and Two for key stakeholders in the Republic of South Africa (SA).

Through this activity, Metabiota will engage with key South African stakeholders including the Centers for Disease Control and Prevention – South Africa (CDC-SA), U.S. Department of Agriculture – South Africa (USDA-SA), and South Africa. This task will allow for the development of modified training materials, based on existing OHE materials developed by epidemiologists from the Walter Reed Army Institute of Research (WRAIR), to ensure that successive trainings will meet the specific training objectives and requirements of South Africa. Current OHE training materials cover basic epidemiology (Module One) and outbreak investigations (Module Two). These modules introduce basic concepts of epidemiology, statistics, outbreak investigation, surveillance, One Health, and clinical recognition of pathogens with bioterror potential.

These proposed efforts will focus on enhancing South African capacity to conduct OHE trainings, thereby enhancing the capacity to conduct disease prevention, detection, surveillance and response activities. Moreover, this activity will concurrently facilitate cooperative scientific engagement amongst key stakeholders in South Africa in support of the DTRA CBEP mission.

This document outlines the approach that Metabiota will employ to accomplish the requirement. In short, Metabiota intends to:

1. Conduct a comprehensive review of existing OHE WRAIR training materials, a landscape review of current status and understanding of South African training requirements and objectives, and coordinate revision or addition discussions.
2. Develop final revision recommendations of existing OHE materials.
3. Identify OHE training material approval requirements for South Africa and provide scientific and technical support for the facilitation of host country approval.

Project Overview

Background

Over the past few decades, we have experienced a dramatic increase in the rate of emergence and re-emergence of infectious diseases. On average, one new virus emerges every 19 months, most often with origins in animal populations. The threat of emerging pathogens affecting humans worldwide continues to increase; and underscores the need for effective, integrated human and animal disease surveillance, reporting, diagnostics and response capabilities.

To manage these risks, DTRA CBEP aims to reduce potential impacts of biological threats by enhancing biological safety and security (BS&S), awareness of biological risks, and knowledge

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related to biological pathogens globally. To do so, DTRA CBEP works collaboratively with partner nations, other USG agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health; promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner. In AFRICOM, specifically, DTRA CBEP seeks to enhance One Health Epidemiology capabilities and develop and maintain local and regional operational and training capacity in order to sustainably manage the threat of infectious disease events.

In support of this approach, Metabiota intends to administer a high-value review and revision process with key South African stakeholders in order to support strategic DTRA CBEP objectives by increasing local and regional capacity to conduct OHE trainings through collaboration on topics critical to biological threat reduction, and enhancing the regional capacity to for biorisk management thereby managing the threat of infectious disease events. The teams on-the-ground experience and decades of expertise makes Metabiota well positioned to support the implementation of this activity, as well as scientific engagement in the AFRICOM's area of responsibility.

Goals and Objectives

This activity aims to facilitate approval of OHE training materials by the relevant stakeholders in the government of South Africa. Metabiota will provide DTRA CBEP partners in South Africa with support to properly orient existing OHE training materials to best fit their country-specific objectives and requirements as well as understand the necessary steps for host country approval of the OHE trainings. The delivery of these requirements will cultivate OHE knowledge and in-country capacity expansion in South Africa and allow for further opportunities for national and regional engagements.

To achieve this purpose, Metabiota and their collaborative partners will:

- Identify and collaborate with key South Africa stakeholders to develop a communication plan for the OHE training material review
- Conduct a comprehensive SME review of existing OHE training materials to provide technical support to the South African stakeholders
- Conduct a training landscape review describing the training objectives and requirements of South Africa
- Develop recommendations for revision or additions to existing OHE training materials based on identified South African training needs
- Provide scientific and program management support to facilitate host country approval of OHE training
- Develop a proposed training event plan based on specific training needs and requirements for South Africa. (i.e. type and number of trainees, etc.)

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Impact

Through the implementation of a Metabiota facilitated review of existing OHE training materials with key South Africa stakeholders, and the identification of South African requirements for host-county OHE training approvals, DTRA CBEP will have:

- Enhanced South Africa's capacity to conduct OHE trainings, thereby enhancing their national and regional capacity to conduct disease prevention, detection, surveillance and response activities for pathogens with bioterror potential.
- Facilitated cooperative scientific engagement amongst key stakeholders in South Africa and enhancing their networks for collaborative research and disease detection and control activities.

This activity will provide a measurable and achievable result in the coordination of approval for OHE training materials while promoting a collaborative network with key local stakeholders in South Africa.

Risk Management

In order to maintain course action and guarantee trainings that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown on the next page as Table 1. Identifying and acknowledging the risks associated with not implementing this training, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Schedule and Performance						
Technical Engagement/Input	Key South African stakeholders not engaged in the process and do not provide review comments and feedback in timely manner	5	3	Med-High	Metabiota will work closely with CBEP to identify and engage the most appropriate coordination points of contact for each key stakeholder	Med
Communication	Effective, informative, and ongoing communication with key SA stakeholders to allow for coordination of efforts and meet the deliverables	4	4	(b)(4); (b)(6)	Metabiota will hold regularly scheduled conference calls with key SA stakeholders and CBEP to encourage ongoing discussion throughout all phases of this effort	Med
Fluidity in Process and Coordi	Identifying the necessary tasks to facilitate host country approval will be an iterative process, and the overal objective must be maintained through the multiple iterations	5	5	Med	Metabiota will discuss goals and objectives for each iteration of the review and revision process to ensure that overall objective is met	(b)(4); (b)(6)

Implementation Plan

Introduction

Metabiota will employ its existing organizational leadership to interface with the Regional Science Manager and Regional Program Manager, and Country Manager to direct the operational and administrative support required to ensure implementation of OHE RSA. Our Program Manager will oversee these activities, with the support of Research and Data Analyst, Project Coordinator, stakeholder collaborators and SMEs to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Communications Protocols

Metabiota will maintain open communications with international collaborators necessary for implementing the training, to include local and regional stakeholders. In addition, Metabiota will maintain routine communication with DTRA CBEP to ensure they have full visibility on the training engagement, status and process of execution.

Technical Approach

Phases of Technical Approach

Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project phases and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. The following phases are required for this project:

Phase 1: Initiation and Coordination
- *Subtask 1: Identification of Stakeholders*
- *Subtask 2: Requirements Review*

Phase 2: Training Materials and Landscape Review
Phase 3: Host Country Approval Facilitation Support

Phase 1 – Initiation and Coordination (July 1 – August 31, 2015)

Subtask 1: Identification of Stakeholders

Objective: Identify all relevant stakeholders necessary for training material approval and develop and establish a working communications plan for coordination of project efforts.

Process: Metabiota, in coordination with DTRA CBEP, will identify POCs with key in-country stakeholders including, but not limited to, the Centers for Disease Control and Prevention – South Africa (CDC-SA), U.S. Department of Agriculture – South Africa (USDA-SA), and key entities within the government of South Africa including but not limited to the Department of Agriculture, Forestry and Fisheries (DAFF), National Department of Health (NDOH), and National Institute for Communicable Diseases (NICD).

The information contained herein is Metabiota PROPRIETARY information and may include Metabiota CONFIDENTIAL information and shall not be disclosed outside of the U.S. Government, as per the statement found on the cover page.

Subtask 2: Requirements Review
Objective: Understand South Africa approval requirements and processes.

Process: In coordination with key in-country stakeholders, Metabiota will determine what processes are required to secure host country approval of training materials. During this time, the lead Metabiota SME will conduct a comprehensive review of the existing OHE training materials to enable them to provide the South African stakeholders with technical support during the materials review process. Based upon their initial assessment of SA needs and training materials, the lead SME may require additional SME resources. As coordination proceeds, Metabiota will solicit an opinion from key SA stakeholders as to the suitability of the current training materials for South African training needs and determine whether they currently meet the standards for approval.

Deliverables:

- Deliverable 1: Submission of key stakeholder POC list and communication plan.
- Deliverable 2: Submission of South African host country approval requirements and process report.
- Deliverable 3: Submission of SME OHE review report.

Phase 2 – Training Landscape Development (September 1-December 31, 2015)
Objective: Develop an understanding of South African training objectives and requirements and identify potential revisions or additions to existing OHE materials.

Process: Metabiota will coordinate with stakeholder POCs to develop an understanding of South Africa's training objectives and requirements for the conduction of OHE trainings and for the host-country approval of OHE training materials. Metabiota SME's will provide stakeholders with an overview of the existing OHE training materials and preliminary recommendations for areas of review. Based on stakeholder input, Metabiota will develop a training landscape review.

Deliverables:

- Deliverable 1: Submission of the landscape review report.

Phase 3 – Host Country Approval Facilitation Support (September 1-December 31, 2015)
Objective: Identify revisions or additions to OHE training materials, and provide support to South African stakeholders in obtaining host country approval of OHE trainings and training materials.

Process: Metabiota will provide recommendations for revisions or additions to the existing training material based on inputs gathered from key stakeholders in previous stages. Metabiota SME's will engage, facilitate, and support SA stakeholders in their efforts to make any modifications necessary for host country approval. During this time, Metabiota SMEs and Program Management will coordinate with SA stakeholders to ensure proper technical and

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program management support is provided to facilitate the host country approval process. Near the end of this phase, Metabiota will convene an in-country working group meeting with SA stakeholders to facilitate any final modifications to the material. At this time, if the SA environment allows for it, Metabiota will develop an OHE training plan with the SA stakeholders.

Deliverables:

- Deliverable 1: Submission of OHE training material revision or addition recommendations.
- Deliverable 2: Provide monthly updates on OHE training material host country approval.
- Deliverable 3: Submission of post-action report and OHE training plan recommendations.

The below table describes the detailed technical approach that Metabiota will take to complete this effort and provide the required deliverables. The following table (Timeline) describes the anticipated timeline of each phase.

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Technical Approach

Program Element	Program Tasks	Resources Required	Key Milestones and Deliverables	Projected Timeline
Phase 1.1: Coordination	• Develop list of SA and USG stakeholders necessary for training material approval • Develop communication plan for coordinating with all relevant stakeholders	• SME III Epidemiology • Program Manager (PM) • Project Coordinator (PC)	1. Establish communication with key stakeholders 2. Communication Plan	Months 1-2
Phase 1.2: Requirements Review	• Develop understanding of requirements and process for training material approval • Conduct comprehensive review of existing OIE training materials • Gather initial assessment by SA stakeholders of status of training materials.	• SME III – Epidemiology • SME III/Trainer III (as needed) • Program Manager (PM) • Project Coordinator (PC)	1. Documented process for approval of materials 2. Complete review of existing OIE training materials	Months 1-2
Phase 2: Training Landscape Development	• Coordinate with key stakeholders to understand SA training objectives and requirements: based on input from key stakeholders develop training landscape review • Provide overview of existing OIE training materials; coordinate with key stakeholders to understand SA concerns with training materials and why	• SME III Epidemiology • SME III/Trainer III (as needed) • PM • PC	1. Obtain clear understanding of SA training objectives and requirements 2. Training Landscape Review	Months 3-6
Phase 3: Facilitation of Host Country Approval	• Develop recommendations in conjunction with SA stakeholders for revision of materials or additional content. • Provide scientific/technical and program management support to facilitate host country approval of OIE training	• SME III Epidemiology • SME III/Trainer III (as needed) • PM • PC	• Recommendations for OIE training materials revisions or additions • Facilitate SA approval for OIE training materials • Post-action report and OIE training plan	Months 3-6

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Timeline

Phase	Q3 2015			Q4 2015		
	July	Aug	Sept	Oct	Nov	Dec
Phase 1: Initiation and Coordination						
Phase 2: Training Landscape Development						
Phase 3: Host Country Approval Facilitation Support						

Management Approach

Project Team Structure

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the Program Manager, Trainer, and Subject Matter Experts based on their administrative and scientific expertise. This team of experts will ensure the overall project management and tasks associated with this effort are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.

Initiation

Prior to initiating any action, Metabiota and DTRA CBEP will secure a clear understanding of the objectives and mission of this undertaking, and make sure all stakeholders agree to it. Following authorization to proceed by DTRA CBEP, Metabiota will move into the planning and execution of the community outreach and regional workshop activities.

Execution

The core project management team will maintain oversight and implementation of the project at all times and will ensure rapid execution of this effort, tracking objectives to ensure the project stays on schedule to finalize the adapted training materials. The project will be managed according to the phased implementation plan and will be course corrected, as needed to ensure target end-goals are reached. The following tools will be used to guarantee the project schedule will be maintained:

Project Administration

1. Weekly team meetings and conference calls will be held to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Coordinator, and will include the Regional Program Manager, Training Coordinator,

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SMEs, and AEP leadership, as needed based on the requirements and stage of implementation.
2. Routine calls and communication will be held with DTRA CBEP regional leadership and Metabiota to provide routine status updates and ensure project implementation expectations are met.

Project Reporting

1. Weekly status reports will be provided by the Program Manager to senior Metabiota leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction, as needed to ensure project goals are met.

Monitoring and Controlling:

1. Routine risk assessment will be performed internally among the Metabiota project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with DTRA CBEP regional leadership to ensure the project remains on track and is implemented according to standard.
3. Routine oversight and coordination will be performed to ensure stakeholders are performing in-country requirements to ensure successful execution of this activity. Monitoring will include both administrative and fiscal oversight when appropriate.

Completion

Metabiota will drive the project to completion in a timely manner by maintaining a focused project schedule with routine meetings and communication with DTRA CBEP regional leadership. This will allow for continued coordination, while maintaining targeted objectives. As the activity progresses, Metabiota will provide all required deliverables and after action reports to allow for lessons learned and continuation of solid execution and implementation of activities. Metabiota believes that the experience and management it will bring to this project, in collaboration with DTRA CBEP will guarantee success.

Cost Management

The Metabiota team and all collaborators will maintain an acute focus on cost management to ensure that project deliverables are met at a reasonable cost. Metabiota will provide full oversight of all partners to ensure accurate and responsive financial reporting and will facilitate cost savings to the Government wherever possible. Metabiota will follow procurement regulations ensuring the best price is received under the time constraints using all means available.

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Budget Narrative

Period of Performance

The Period of Performance for this effort is May 16, 2015 to December 31, 2015.

Labor

Costs for direct labor to support this activity is required for the following personnel:

- Metabiota Program Manager: The Metabiota PM will oversee the execution of program objectives towards the completion of DTRA CBEP goals at the regional level, and will lead communication with DTRA CBEP for this activity. The PM will do so by maintaining oversight of stakeholder coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other potential DTRA CBEP subcontractors meet all project requirements and deliverables erstwhile ensuring the program remains within scope, budget, and timeline.
- Metabiota Project Coordinator (Trainer I): The Metabiota PC will ensure the execution of project objectives towards the completion of DTRA CBEP goals at the project level. The PC will do so by managing stakeholder coordination and project execution, with a focus on project milestone achievement and stakeholder buy-in development and maintenance. The PC will regularly communicate project status with the Metabiota PM, and will assist the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will also assist the PM in ensuring all project requirements and deliverables are fulfilled while concurrently ensuring the project remains within scope, budget, and timeline.
- Metabiota SME III – Epidemiologist to assist in the coordination with DTRA CBEP and key SA stakeholders, to obtain understanding of training objectives and requirements in SA, conduct comprehensive review of existing materials, assist in development of training landscape review, provide recommendations for revisions of existing material or for additional material content, and provide necessary scientific/technical support to facilitate approval of OHE training in SA.
- As needed, Metabiota SME III or Trainer III – Based on communications with key stakeholders and the training objectives or requirements identified in SA, the expertise of either a clinician or the Metabiota Training Coordinator will be engaged for this activity to assist in conducting comprehensive review of existing materials, assist in development of training landscape review, and provide recommendations for training strategies or revisions and additions to training material. The hours budgeted for these two positions assume a scenario where stakeholders indicate a significant need for additional external expertise in assessing materials and training landscape, and facilitating host country approval of materials.

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Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials

Materials and supplies are required to support project activities including stakeholder outreach and coordination, training material production, and host country approval facilitation. Materials will include:

- Office Supplies
- Printing Services
- International Communication

Costs include shipping and customs clearance fees.

Other Direct Costs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. Metabiota personnel performing on this project are already insured.

Travel

Funds are requested for three Metabiota staff to travel to South Africa to facilitate final modifications to training materials. Metabiota staff will support project implementation, coordinate stakeholders, and provide technical support for obtaining host country OHE training approval to the key South African stakeholders.

Conclusion

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP AFRICOM in the implementation of Review and tailor of WRAIR OHE Modules One and Two training materials. Metabiota will ensure, through strong project management and risk mitigation that the training will be executed in an efficient and timely manner delivering a top quality course geared to support enhanced biosurveillance and biosafety efforts in the region.

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Appendix A - Team Metabiota Overview

Metabiota is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science, including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in 20 countries and offices in San Francisco, Washington, China, Canada, and Sierra Leone.

Metabiota currently supports a number of Defense Threat Reduction Agency`s Cooperative Biological Engagement Program (DTRA CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. Metabiota's mission aligns well with CBEP and the entire Metabiota team is focused on supporting our USG Partners in reducing the risk of biological threats worldwide, and employs a collaborative and agile approach to biological risk reduction.

To ensure a successful event, Metabiota, in coordination with DTRA CBEP regional leadership and in country partners have built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGO) whose respective aims could impact DTRA CBEP objectives.

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OPTION YEAR - SOW Section 4.3, Task 6 Community Outreach to Support Understanding

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: June 16, 2015
PERIOD OF PERFORMANCE: 16 May 2015 - 31 January 2016
PROJECT: TAP-4

	oaded based on rate card).	LOE Hours		Amount
CLIN 1002	(b)(4); (b)(6)	252	$	(b)(4); (b)(6)
CLIN 1002		252	$	
CLIN 1002		204	$	
	Total Labor Costs (fully loaded):	**708**	**$**	
	OTHER DIRECT COSTS *(fully loaded)*:			
	CLIN 1003 Materials		$	105.27
	CLIN 1004 ODCs		$	2,768.39
	CLIN 1005 Travel		$	16,462.50
	(b)(4); (b)(6)		**$**	(b)(4); (b)(6)
			$	

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 16-Jun-15
Project ITAP-4
Period of Performance: 16 May 2015 - 31 January 2016

CLIN No.	Labor Description	Cost	Total Hours	Total Billable
CLIN 1002	(b)(4); (b)(6)	$ (b)(4); (b)(6)	252	(b)(4); (b)(6)
CLIN 1002		$	252	
CLIN 1002		$	204	

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 16-Jun-15
Project ITAP-1
Period of Performance: 16 May 2015 - 31 January 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1003	office supplies (paper, toner, etc.	$	(b)(4); (b)(6)	(b)(4); (b)(6)
CLIN 1003				
CLIN 1003				
CLIN 1003				
CLIN 1003				
CLIN 1003				

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 16-Jun-15
Project ITAP-1
Period of Performance: 16 May 2015 - 31 January 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1004	DBA Insurance	$ (b)(4) (b)(6)		(b)(4) (b)(6)
		Sub-Total		

TRAVEL ESTIMATE COST

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 16-Jun-15
Proposal: TAP-4
Period of Performance: 16 May 2015 - 31 January 2016

USG Foreign Per Diem Rates			
Location	**Maximum Lodging**	**M&IE**	**Total**
Yaounde, Cameroon	236	105	341
Traveler:	International Program Manager/Training Coordinator	International Project Coordinator	International Trainer III
Departure Location:	Washington, DC	Kiev, Ukraine	Berne, Switzerland
Destination:	Tbilisi, Georgia	Tbilisi, Georgia	Kiev, Ukraine
Purpose:	Manage and implement in-person training event	Manage and implement in-person training event	Manage and implement in-person training event
Airfare	$1,500	$500	$500
Lodging	1,416	1,416	1,416
Meals / Incidentals	630	525	525
Meals / Incidentals (First and Last Travel Days)	158	158	158
Airport transfer (US)	$300	$70	$70
Airport transfer	$30	$30	$30
Ground transport	$60	$60	$60
Incidentals (Visa)			
# of Lodging Nights	6	6	6
# of Days	8	7	7
Total Per Trip	**$4,094**	**$2,759**	**$2,759**
No. of trips	1	1	2
No. of persons	2	1	1

SUBTOTAL:	$8,187	$2,759	$5,517

GRAND TOTAL
$16,463

Metabiota's Technical and Cost Proposal

"Community Outreach to Support Understanding of African Swine Fever (ASF) Ecology and Epidemiology in Eastern Europe (EE): Training and Implementation for Methods and Strategies for Control and Prevention (Ukraine TO4 TAP4)"

Technical Direction Number: TD-011
Contract Number: HDTRA1-14-C-0104
CAGE Code: 56SP4
DUNS number: 828131156

Small US Business
Metabiota, Inc.



One Sutter Street, Suite 600 San Francisco, CA 94104

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Executive Summary

In response to Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) regional leadership tasking via the Academic Engagement Partnership (AEP) contract vehicle, Technical Direction 011, Metabiota, Inc. seeks to support the DTRA CBEP mission by conducting awareness-raising and knowledge enhancement activities regarding African Swine Fever (ASF) in Ukraine as part of a broader regional ASF engagement effort between Ukraine, Armenia, Georgia, and Kazakhstan. These proposed efforts would focus on development and enhancement of disease prevention, detection, surveillance and response capacity within Ukraine, while concurrently facilitating cooperative research and scientific engagement in the greater region in support of the DTRA CBEP mission.

Through this activity, Metabiota will engage with SAFOSO AG, a Swiss consulting company with expertise in veterinary health-related capacity building and training efforts, Ukrainian subject matter experts (SME), and other local and regional stakeholders in order to direct technical support in the development and implementation of public awareness initiatives, including risk assessments and mitigation strategies to reduce the threat of ASF in domestic and wild swine populations.

This document outlines the approach that Metabiota will employ to accomplish the requirement. In short, Metabiota intends to:

1. Facilitate the rollout and observe an independent outreach teaching exercises program conducted by Ukrainian SMEs for laymen that have regular contact with swine populations in order for them to recognize clinical and epidemiological patterns of ASF.
2. Support the expansion of in-country understanding of common sources and routes of ASF exposure, preventative measures, economic impacts of ASF, how to recognize symptoms, and how to respond to suspected cases.
3. Support Ukrainian stakeholder engagement with regional research scientists and other biological risk management stakeholders through cooperative pursuits and enhancing host-nation capacity to conduct disease surveillance and response.

Project Overview

Background

Especially dangerous pathogens in agriculture are a challenge for animal health and food security infrastructures and pose a significant threat to security and economic stability across the globe. To manage these threats, DTRA CBEP aims to reduce potential impacts of agricultural biological threats by enhancing biological safety and security (BS&S), awareness of biological risks, and knowledge related to biological pathogens globally.

To do so, DTRA CBEP works collaboratively with partner nations, other USG agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health; promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and

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secure facilities in a sustainable manner. In Eastern Europe and Central Asia, specifically, DTRA CBEP seeks to increase regional collaboration on topics critical to biological threat reduction and enhance the regional capacity to perform biorisk management and mitigate the threat of infectious disease events.

Since emerging in the region, many ASF cases have occurred in pig farms along shared boundaries. Although surveillance of wild boars and commercial pigs for ASF is ongoing, reemergence and spread of the disease remains a threat to commercial swine populations through interactions of wild boar with domestic swine raised within small private farms or backyards, uncontrolled movement of domestic pigs and, swill feeding. As Former Soviet Union (Eastern European - EE) countries serve as geographical land barriers between the Russian Federation, where ASF is endemic, and Western Europe and Asia, raising awareness among swine farmers, veterinarians, and other key personnel is an integral component in preventing the spread of this disease.

TAP-4 was originally developed under the Biological Threat Reduction Integrating Contract (BTRIC) mechanism in 2013. However, this funding mechanism, including all ongoing research efforts, ceased February 2014. In an effort to complete the final TAP-4 stages and meet previously identified goals and objectives, DTRA CBEP tasked Metabiota with implementing TAP-4 in Ukraine to raise awareness and enhance local ASF knowledge, and to aid the establishment and standardization of a regional alliance between several DTRA CBEP EE partner countries.

In support of this approach, Metabiota intends to provide administrative and technical support for the rollout of an independent outreach teaching exercise program conducted by Ukrainian SMEs, in addition to supporting a regional workshop designed to increase collaboration on topics critical to biological threat reduction, and enhancing the regional capacity to perform biorisk management and mitigate the threat of infectious disease events. The teams on-the-ground experience and decades of expertise makes us well positioned to support the implementation of these and associated activities, as well as scientific engagement in Ukraine and the other engaged countries.

Goals and Objectives

This activity aims to provide DTRA CBEP partners in Ukraine with support to manage the risk of further spread of ASF within its and its regional counterparts' borders. The delivery of these requirements will cultivate continued knowledge enhancement throughout Ukraine and expanded in country and regional disease surveillance and control capacities.

To achieve this purpose, Metabiota and their collaborative partners will:

- Identify and educate those persons who work with swine to recognize clinical and epidemiological patterns of ASF including farmers, hunters, and wild fauna management as well as those engaged in the commercial pork supply chain; Engage project collaborators from Armenia, Georgia, Kazakhstan, and Ukraine, who

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will collaboratively develop strategies for enhancing ASF public awareness in their respective countries;
- Employ a Regional Joint ASF Working Group that will oversee development and implementation of project objectives;
- Foster fellowship between project participants through achievement of a common goal that illuminates shared interests, concerns, and challenges, providing a basis upon which to increase the capacity for future collaborative pursuits.

Impact

Through the implementation of Metabiota-facilitated ASF trainings in Ukraine and the establishment of a regional ASF alliance between CBEP EE partner countries, DTRA CBEP will have:
- Developed and enhanced disease surveillance systems targeting pathogens of security concern (ASF) and built upon regional detection and response capabilities;
- Supported collaborative awareness efforts in the region and foster collaborative scientific research by providing funding and infrastructure to key stakeholders.

This activity will provide a measurable and achievable result in raising awareness of ASF among DTRA CBEP EE partner countries and facilitating efforts in Ukraine to formally educate those who play a pivotal role in the prevention of ASF. Moreover, this activity will concurrently promote a sub-regional network of strategic collaborators and developing a sustainable infrastructure for advancing scientific research, including early detection of emergent threats.

Risk Management

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Schedule						
Project Coordination	Each regional workshop requires coordination of several entities in a timely fashion in order to have a successful event.	3	3	Medium	Establish and hold regular calls with all stakeholders, as final workshop dates grow nearer.	(b)(4); (b)(6)
Performance						
Political Instability	Ukraine's current political situation may lead to risks of being unable to safely complete in-country work, especially in eastern Ukraine.	4	4	(b)(4); (b)(6)	Metabiota has in-country personnel knowledgeable of the operating environment, and will coordinate closely with trainees to focus on safer areas of the country.	Med

Implementation Plan

Introduction

Metabiota will employ its existing organizational leadership to interface with the Regional Science Manager and Regional Program Manager, and Country Manager to direct the operational and administrative support required to ensure implementation of ASF Community Awareness Trainings and Regional Collaboration. Our Program Manager will oversee these activities, with the support of both CONUS and OCONUS Metabiota staff to ensure that all

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aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Communications Protocols

Metabiota will maintain open communications with international collaborators necessary for implementing the training, to include regional partners facilitating the training engagement and logistics. In addition, Metabiota will maintain routine communication with CBEP to ensure they have full visibility on the training engagement, status and process of execution.

Technical Approach

As this project is an ongoing effort, the technical approach outlined below covers only the highlights of the activities to be conducted for the portion of the project's period of performance that lies in the Metabiota AEP Option Year (16 May 2015 onward). A full description of project activities can be found in the previously approved Form A.

Phases of Technical Approach

Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project phases and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. The following phases are required for this project:

Phase 1: Regional Meeting #3: Training Workshop 2, Lviv, Ukraine
Phase 2: Independent Outreach Teaching Exercises Rollout and Observation
Phase 3: Regional Meeting #4, Summary Workshop, Tbilisi, Georgia
Phase 4: Summary Report Development

Phase 1 – Regional Meeting #3: Training Workshop 2; Lviv, Ukraine, May 18 – 22
Objective: Build on the accomplishments from Regional Meeting #1 (Kick Off Meeting: Yerevan, Armenia) and #2 (Training Workshop 1: Almaty, Kazakhstan) to continue adaptation of materials for country specific distribution.

Process: Metabiota, in coordination with DTRA CBEP and CLS, will provide Ukrainian SMEs with support to participate in a collaborative workshop with representatives from the other countries involved, conducted and observed by SAFOSO under the direction of Metabiota contractual agreements. The second training workshop will build off of the first training workshop, and, include adaptation of materials for country specific distribution, define the approach for education and distribution based on country specific infrastructure and policy. It will also include discussions lead by each country on current diagnostics and response procedures (if any) and potential improvements). The benefits to including all stakeholders in this training stage is to get an understanding of the strengths and weaknesses of implementation in each country and lessons that may be applied to country specific approaches.

Deliverables:

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- Deliverable 1: Adapted materials and a strategy for SME Training-of-Trainer (ToT) training to be conducted in each country.

Phase 2 – Independent Outreach Teaching Exercises (June 29 – early November)
Objective: Facilitate technical support and observation of an outreach teaching exercise program conducted by Ukrainian SMEs for laymen that have regular contact with swine populations in order for them to recognize clinical and epidemiological patterns of ASF.

Process: Metabiota, in coordination with DTRA CBEP, will provide four Ukrainian SMEs with support to participate in a ToT program, conducted and observed by SAFOSO under the direction of Metabiota contractual agreements. At the conclusion of these ToT activities, Ukrainian SMEs will initiate community outreach teaching exercises, targeting known ASF risk areas, by identifying and educating those persons who work with swine to recognize clinical and epidemiological patterns of ASF including farmers, hunters, and wild fauna management as well as those engaged in the commercial pork supply chain.

During Regional Meeting #2 (Almaty, Kazakhstan), it was determined that Oblast-level veterinarians would be the optimal recipients for the initial ToT event, which will take place in Kiev, Ukraine and under the supervision of SAFOSO. Oblast Veterinarians will be educated on: signs and symptoms of ASF, diagnostics, reporting, epidemiology, and economic impact. Additionally, Oblast Veterinarians will be provided fliers and posters, which have been tailored for use in Ukraine, to take back to their respective oblasts. The aforementioned materials will then be incorporated into the day-to-day activities of the Oblast Veterinarians, which include regular visits to villages, small farms, as well as oversight of hunting activities.

Deliverables:

- Deliverable 1: Submission of community outreach target audience criteria, location justifications, and participant lists for each of the 12 trainings (500 training participants max).
- Deliverable 2: Submission of training materials, evaluations, and post-action reports for the conduction of 12 outreach-teaching exercises.

Phase 3 – Regional Meeting #4 Summary Workshop; Tbilisi, Georgia, November 2015
Objective: Support Ukrainian stakeholder engagement with regional research scientists and other biological risk management stakeholders through cooperative pursuits and enhancing host-nation capacity to conduct disease surveillance and response, including ASF-specific public awareness programs.

Process: Metabiota, in coordination with DTRA CBEP, will provide four Ukrainian SMEs with support to participate in a three-day summary workshop, taking place in Tbilisi, Georgia. Under the guidance of SAFOSO, the Ukrainian SMEs will present their work, experiences, and shared lessons learned with their regional counterparts implementing sister DTRA CBEP-supported ASF risk management programs.

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Through this workshop, Metabiota aims to support the establishment of a Regional Joint ASF Working Group that will oversee the development and implementation of project objectives. Moreover, Metabiota aims to foster fellowship between various DTRA CBEP project participants through the achievement of a common goal that illuminates shared interests, concerns, and challenges, providing a basis upon which to increase the capacity for future collaborative pursuits.

Deliverables:

- Deliverable 1: Submission of participant lists, indicating role and presentation topics, for the Regional Workshop (#4).
- Deliverable 2: Submission of workshop presentation materials, evaluations, and post-action reports for all travelers.

Phase 4 – Summary Report Development (November 2015 – February 2016)
Objective: Capture processes developed, lessons learned, and overall status of ASF in Ukraine.

Process: The Metabiota team, including SAFOSO, will work jointly with the teams from the sister projects to develop final reports capturing lessons learned and the current status of ASF in Ukraine. These reports may be submitted for publication, in order to pass on the knowledge learned to other countries that may be dealing with ASF, or be presented at an international meeting attended by project collaborators and members of the Regional Joint ASF Working Group.

Deliverables:

- Final report detailing overall processes and lessons learned, possibly for submission to a peer-reviewed journal.
- Progress report on status of ASF in project countries, for presentation internationally.

Management Approach

Project Team Structure

Metabiota's project team will include the AEP program leadership, the Program Manager, Project Coordinator, Travel Coordinator and a team of Research Collaborators and Subject Matter Experts that will be tasked with specific assignments to support the development and implementation of this activity based on their administrative and scientific expertise. This team of experts will ensure the overall project management and tasks associated with the training are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.

Subcontract – SAFOSO

In order to effectively disseminate information and raise public awareness within the scope of this project, Metabiota is seeking support from the larger, European-driven ASF prevention effort known as "Targeted research effort on African swine fever" (ASFORCE). ASFORCE is a consortium of 17 laboratories and organizations from Western Europe and the Russian

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Federation (RF), which was established to combat the spread of ASF and improve ASF research in the region. Within ASFORCE, SAFOSO has conducted multiple ASF workshops to raise ASF awareness within the RF. By leveraging those trainers used in ASFORCE to raise awareness in the EE states, and particularly Ukraine, the use of SAFOSO to conduct this activity may provide information and networking expansion opportunities between the EE states and their Western European counterparts on ASF topics.

Initiation

Prior to initiating any action. Metabiota and DTRA CBEP will secure a clear understanding of the objectives and mission of this undertaking, and make sure all stakeholders agree to it. Following authorization to proceed by DTRA CBEP, Metabiota will move into the planning and execution of the community outreach and regional workshop activities.

Execution

The core project management team will maintain oversight and implementation of the project at all times and will ensure rapid execution of all phases, tracking objectives to ensure the project stays on schedule and within budget to complete this activity. The project will be managed according to the phased implementation plan and will be course corrected, as needed to ensure target end-goals are reached. The following tools will be used to guarantee the project schedule will be maintained:

Project Administration:

1. Weekly team meetings and conference calls will be held to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Coordinator and will include the Program Manager, Training Coordinator, and AEP leadership, as needed based on the requirements and stage of implementation.
2. Routine calls and communication via email will be held with DTRA CBEP regional leadership and Metabiota to provide routine status updates and ensure training implementation.

Project Reporting:

1. Weekly status reports will be provided by the Program Manager to senior Metabiota leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction, as needed to ensure training goals are met.

Monitoring and Controlling

1. Routine risk assessment will be performed internally among the Metabiota project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with DTRA CBEP regional leadership to ensure the project remains on track and is implemented according to standard.

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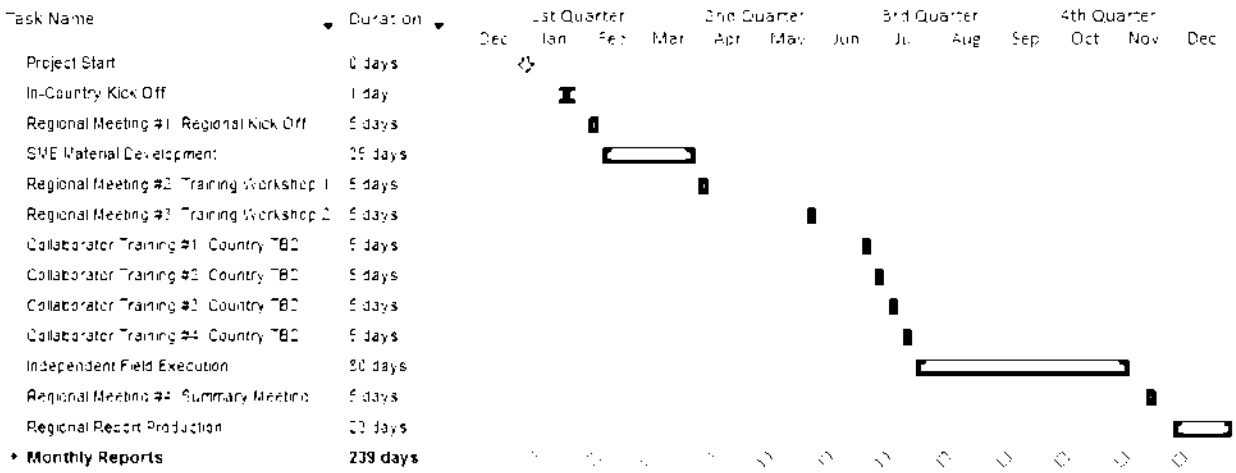
3. Routine oversight and coordination will be performed to ensure SAFOSO is performing all necessary requirements to ensure successful execution of the training. Monitoring will include both administrative and fiscal oversight.

Timeline

The original TAP-4 timeline under the BTRIC mechanism can be found below. As this activity has consistently stayed true to this original schedule, Metabiota will complete Phase 1-4 of this activity as originally planned, beginning with Phase 1- Regional Meeting #3. Phase 2 - In-Country ToT will take the scheduling place of Collaborator Training #1 in the anticipated schedule.



Completion

Metabiota will drive the project to completion in a timely manner by maintaining a focused project schedule with routine meetings and communication with DTRA CBEP regional leadership. This will allow for continued coordination, while maintaining targeted objectives. As the activity progresses, Metabiota will provide all required deliverables and after action reports to allow for lessons learned and continuation of solid execution and implementation of activities. Metabiota believes that the experience and management it will bring to this project, in collaboration with DTRA CBEP will guarantee success.

Cost Management

The Metabiota team and all partners will maintain an acute focus on cost management to ensure that this activity is delivered at a reasonable cost to the government. Our team will provide full oversight of SAFOSO to ensure accurate and responsive financial reporting and will facilitate cost savings wherever possible. Metabiota will follow procurement regulations ensuring the best value is obtained under the time constraints using all means available.

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Budget Narrative

Period of Performance

The Period of Performance for this effort is May 16, 2015 to January 31, 2015.

Labor

Costs for direct labor to support this activity is required for the following personnel:

- Metabiota Program Manager: (b)(6) will oversee and execute the project to include management of deliverables, logistics, procurement, tracking of project requirements, and implementation. The program manager will also be responsible for final decision making, coordinating with and reaching consensus with representatives of the sister programs in Armenia, Georgia, and Kazakhstan, and assisting with the drafting of the final deliverable reports.
- Metabiota Trainer I: (b)(6) will assist in coordinating project activities, to include assisting in management of deliverables, logistics, procurement, tracking of project requirements, deliverables and logistics. Trainer I will also aid in coordination with representatives of the sister programs in Armenia, Georgia, and Kazakhstan, and assisting with the drafting of the final deliverable reports.
- SAFOSO Trainer III: (b)(6) will conduct ToT training and observational activities and Regional Workshop oversight, and assist with the drafting of the final deliverable reports.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials

Significant materials and supplies are not anticipated to be required for this effort. However, we are budgeting for a small quantity of office supplies in case last-minute printing of agendas, training materials, or workshop materials is required to successfully execute and support in-country project activities.

Other Direct Costs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for SAFOSO staff for the period of performance for this engagement. Metabiota personnel performing on this project are already insured.

Subcontracts

A Subcontract will be issued to SAFOSO for time provided by their Trainers, as well as materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

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Travel is requested to support all SAFOSO Trainers to facilitate project implementation and conduct training and supportive activities in this effort.

Travel is also requested for Metabiota Program Manager and Trainer I to travel to Tbilisi, Georgia, to participate in the Regional Summary Workshop.

Conclusion

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP's mission in Ukraine in the implementation of Community Outreach to Support Understanding of African Swine Fever (ASF) Ecology and Epidemiology in Eastern Europe (EE): Training and Implementation for Methods and Strategies for Control and Prevention (Ukraine TO4 TAP4. Metabiota will ensure, through strong project management and risk mitigation, that the training will be executed in an efficient and timely manner delivering a top quality program geared to support enhanced biosurveillance and biosafety efforts in the region.

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Appendix A - Team Metabiota Overview

Metabiota is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science, including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in 20 countries and offices in San Francisco, Washington, China, Canada, and Sierra Leone.

Metabiota currently supports a number of Defense Threat Reduction Agency's Cooperative Biological Engagement Program (DTRA CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. Metabiota's mission aligns well with DTRA CBEP and the entire Metabiota team is focused on supporting our USG Partners in reducing the risk of biological threats worldwide, and employs a collaborative and agile approach to biological risk reduction.

To ensure a successful event, Metabiota, in coordination with DTRA CBEP regional leadership and in country partners have built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGO) whose respective aims could impact DTRA CBEP objectives.

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METABIOTA

June 29, 2015

(b)(6) Contracting Officers Representative J3CTB
Defense Threat Reduction Agency (DTRA)
8725 John J Kingman Road, #6201
Fort Belvoir, VA 22060

Sent via email to (b)(6)
CC: (b)(6)
(b)(6)

RE: Metabiota Proposal TD011 Ukraine TADT Activity Project 4 (TAP-4)
AEP DTRA Contract No. HDTRA1-14-C-0104

Dear (b)(6)

Metabiota, Inc. (Metabiota) presents the attached proposal in response to the Letter of Technical sent by DTRA on June 29, 2015 for continued implementation of the TADR research project.

Metabiota intends to engage Safoso as a Subcontractor in support of this initiative.

For the effort described, Metabiota estimates the Revised Rough Order of Magnitude (ROM) to be **$131,069.00** for a Period of Performance of May 16, 2015 to January 31, 2016. The detailed budget is included. This proposal shall remain valid for six (6) months from the date of this letter.

Please feel free to contact (b)(6) with questions or concerns at
(b)(6)

Sincerely,

(b)(6)
Contracts Manager

METABIOTA

June 29, 2015

(b)(6) Contracting Officers Representative J3CTB
Defense Threat Reduction Agency (DTRA)
8725 John J Kingman Road, #6201
Fort Belvoir, VA 22060

Sent via email to (b)(6)
CC: (b)(6)
(b)(6)

RE: Metabiota Proposal TD012 continued implementation of research activity project UP-2 (Ukraine Project 2).
AEP DTRA Contract No. HDTRA1-14-C-0104

Dear (b)(6)

Metabiota, Inc. (Metabiota) presents the attached proposal in response to the Letter of Technical sent by DTRA on June 29, 2015.

Metabiota intends to engage Kansas State University, CRDF Global and, potentially, the University of Florida as Subcontractors in support of this initiative.

For the effort described, Metabiota estimates the Revised Rough Order of Magnitude (ROM) to be **$813,079** for a Period of Performance of May 16, 2015 to May 15, 2016. The detailed budget is included.

Please feel free to contact (b)(6) with questions or concerns at (b)(6)

Sincerely,

(b)(6)
Contracts Manager

OPTION YEAR - SOW Section 4.3, Task 6: Incorporating GIS, Remote Sensing, and

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: June 29, 2015
PERIOD OF PERFORMANCE: 16 May 2015 - 15 May 2016
PROJECT: UP-2

oaded based on rate card).		**LOE Hours**		**Amount**
	(b)(4); (b)(6)	500	$	(b)(4); (b)(6)
CLIN 1002 -		500	$	
CLIN 1002 (		592	$	
CLIN 1002 -		1,960	$	
Total Labor Costs (fully loaded):		**3,552**		
OTHER DIRECT COSTS *(fully loaded):*				
CLIN 1003 Materials			$	135,002.37
CLIN 1004 ODCs			$	172,190.60
CLIN 1005 Travel			$	72,642.62
	(b)(4); (b)(6)			(b)(4); (b)(6)
Total:				

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 29-Jun-15
Project UP-2
Period of Performance: 16 May 2015 - 15 May 2016

CLIN No.	Labor Description	Cost	Total Hours	Total Billable
CLIN 1002	(b)(4); (b)(6)	$ (b)(4); (b)(6)	500	(b)(4); (b)(6)
CLIN 1002		$	500	
CLIN 1002		$	592	
CLIN 1002		$	1,960	

MATERIALS ESTIMATE

Contract Name: Academic Engagement Partnership Program
Contract Number: HDTRA1-14-C-0104
Date Prepared: 29-Jun-15
Project UP 2
Period of Performance: 16 May 2015 15 May 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1003	10:1 Bleach Starter Kit	$ 101.17	2	$ 208.34
CLIN 1003	15 mL Graduated tubes propylene, case of 500	$ 132.94	5	$ 664.70
CLIN 1003	**3M® Economy N95 Particle Respirator, pack of 20**	**$ 22.14**	**21**	**$ 464.94**
CLIN 1003	3M™ Comply™ (SteriGage™) Chemical Integrator 1243A, case of 100	$ 158.13	2	$ 316.26
CLIN 1003	50 mL Graduated tubes propylene, case of 500	$ 144.90	3	$ 434.70
CLIN 1003	Absorbent Pads, case of 500	$ 174.64	1	$ 174.64
CLIN 1003	Absorbent towels, 40x60 cm, pk/28	$ 8.43	27	$ 227.61
CLIN 1003	Agarose MS, 100g	$ 349.60	1	$ 349.60
CLIN 1003	Agarose, LE BioWhittaker, 500g	$ 381.92	2	$ 763.84
CLIN 1003	Alchol proof labeling pens	$ 23.71	1	$ 23.71
CLIN 1003	AMPHOTERICIN B SOLUBILIZED CELL CULTURE TESTED, 100 MG	$ 220.92	6	$ 1,325.52
CLIN 1003	Autoclavable Biohazard Bags 1.5ml, 19 x 23, 200 per pack	$ 121.24	2	$ 242.48
CLIN 1003	Autoclave gloves, 2/pk	$ 144.07	10	$ 1,440.70
CLIN 1003	Autoclave Pans and Baskets, 6/case	$ 229.93	1	$ 229.93
CLIN 1003	BBL Hemoglobin, Bovine, Freeze-dried, 500g	$ 2,286.66	3	$ 6,859.98
CLIN 1003	Benchtop Bag Holders	$ 29.73	2	$ 59.46
CLIN 1003	Bio Transport Carrier System	$ 29.03	1	$ 29.03
CLIN 1003	BiOstic® Blood Total RNA Isolation Kit	$ 207.00	1	$ 207.00
CLIN 1003	BIOWORLD DNA MARKER LADDER100 BP-3KB)	$ 157.42	1	$ 157.42
CLIN 1003	Bleach towelettes, case of 100	$ 94.90	1	$ 94.90
CLIN 1003	Board for rodent necroscopy, wooden	$ 7.51	3	$ 22.53
CLIN 1003	Boric Acid, 1kg	$ 57.50	1	$ 57.50
CLIN 1003	Brain heart infusion agar, 500 g	$ 211.36	6	$ 1,286.16
CLIN 1003	Brain Heart infusion broth 500g	$ 215.51	6	$ 1,293.06
CLIN 1003	Bur (drill) for soil sampling to a depth	$ 69.00	1	$ 69.00
CLIN 1003	CEFEPIME HYDROCHLORIDE, 100MG	$ 1,093.19	6	$ 6,559.14
CLIN 1003	Chloroform, minimum 99% (for molecular biology), 25 mL	$ 138.00	2	$ 276.00
CLIN 1003	Citation Economy Safety Glasses, pack of 12	$ 57.50	7	$ 402.50
CLIN 1003	Cleaner with Bleach, Meliseptol foam pure 750 ml spray bottle	$ 22.95	20	$ 459.00
CLIN 1003	Clear Autoclavable Biohazard Bags	$ 230.00	1	$ 230.00
CLIN 1003	Cloramin B	$ 57.50	10	$ 575.00
CLIN 1003	Cloth Reusable Gown (size L)	$ 15.67	2	$ 31.34

CLIN 1003	Cloth Reusable Gown (size M)	$	15.67	4	$ 62.68
CLIN 1003	Cloth Reusable Gown (size XL)	$	15.67	4	$ 62.68
CLIN 1003	Containers for decontamination of materials/Pipet/Instrument Sterili	$	1,377.70	1	$ 1,377.70
CLIN 1003	Containers, 81-well microtube rack for 1.5 and 2 ml screw cap mictro	$	17.78	4	$ 71.12
CLIN 1003	cotton wool	$	57.44	10	$ 574.40
CLIN 1003	Cryo-tags, 100/roll	$	75.46	3	$ 226.38
CLIN 1003	Cryoboxes, 9x9, CS/6	$	300.09	3	$ 900.27
CLIN 1003	Cryogenic Vial Rack	$	97.42	5	$ 487.10
CLIN 1003	Cryotubes, 2 ml, sterile (100 per pack)	$	57.50	5	$ 287.50
CLIN 1003	Cryovials racks, 100 vials	$	33.63	8	$ 269.04
CLIN 1003	Cryovials, 2 ml, outer screw, with skirt, 1000/pack	$	655.89	4	$ 2,623.56
CLIN 1003	Cryoware Marker Set, black, set of 4	$	36.90	6	$ 221.40
CLIN 1003	CYCLOHEXIMIDE FROM STREPTOMYCES GRISEUS, 5G	$	498.64	3	$ 1,495.92
CLIN 1003	Cystine Heart Agar Base, 500 g	$	148.04	8	$ 1,184.32
CLIN 1003	Deb InstantFOAM, skin cleanser, 47 ml	$	14.92	20	$ 298.40
CLIN 1003	Desinfectant Perhydrol (hydrogen peroxide 32%) (1 kg)	$	5.52	1	$ 5.52
CLIN 1003	Detergent disinfectant (case of 2)	$	136.39	1	$ 136.39
CLIN 1003	Diagnostic fluorescent immunoglobulins (5 ampules per pack)	$	182.85	5	$ 914.25
CLIN 1003	Disinfectant Brilliant, 1 L	$	11.71	5	$ 58.55
CLIN 1003	Disinfectant wipes (wipes lysol sanitizing)	$	7.21	30	$ 216.30
CLIN 1003	Disinfectant, "Neochlor"	$	15.31	3	$ 45.93
CLIN 1003	Disinfectants/Sanitazers	$	40.19	1	$ 40.19
CLIN 1003	Dissecting Forceps	$	6.83	3	$ 20.49
CLIN 1003	DNA/RNA Free Reagent, 720ml. (case of 12)	$	199.61	2	$ 999.22
CLIN 1003	dNTP, Mix, 2 mM each	$	118.35	10	$ 1,483.50
CLIN 1003	Duct Tape	$	18.69	3	$ 56.07
CLIN 1003	EDTA-Na salt (1 kg)	$	91.68	2	$ 189.36
CLIN 1003	EMD Millipore Fluids Contamination Analysis Kit	$	2,648.57	1	$ 2,648.57
CLIN 1003	Eppendorf tubes (0.5 ml) 1000/pack	$	60.84	1	$ 60.84
CLIN 1003	Eppendorf tubes (1.5 ml) 1000/pack	$	70.15	2	$ 140.30
CLIN 1003	Eppendorf tubes (2 ml) 500/pack	$	101.78	6	$ 610.68
CLIN 1003	Eyewash Safety Station (case of 5)	$	292.50	1	$ 292.50
CLIN 1003	Falcon tubes (15 ml, steril) 500/pack	$	310.94	3	$ 932.82
CLIN 1003	Filter tips (200 mkl - pipetting of microvolumes for PCR), case of	$	172.50	11	$ 1,897.50
CLIN 1003	Filter tips (10 mkl -pipetting of microvolumes for PCR), case of 960	$	172.50	5	$ 862.50
CLIN 1003	Filter tips (1000 mkl -pipetting of microvolumes for PCR), case of 9	$	172.50	12	$ 2,070.00
CLIN 1003	Filter tips 100 mkl, case of 960	$	172.50	1	$ 172.50
CLIN 1003	Filter tips 2-20 mkl	$	172.50	6	$ 1,035.00
CLIN 1003	First Aid Kit, compact	$	140.06	2	$ 280.12
CLIN 1003	First Aid Kit, wall mounted	$	252.11	1	$ 252.11

CLIN 1003	Fisher Scientific SterilElite™ Tabletop Autoclave	$	8,448.54	1	$ 8,448.54
CLIN 1003	Flat Wire Sampling Bags 120 mL, pack of 500	$	79.67	1	$ 79.67
CLIN 1003	Flat Wire Sampling Bags 540 mL, pack of 500	$	112.91	1	$ 112.91
CLIN 1003	Forceps surgical	$	7.12	3	$ 21.36
CLIN 1003	Gauze	$	4.59	30	$ 137.70
CLIN 1003	GelSpin DNA purification	$	828.00	1	$ 828.00
CLIN 1003	Glassware: conic flasks, measuring glass, bottles, graduated cylinde	$	517.50	1	$ 517.50
CLIN 1003	Gloves latex (medium), 100/pk	$	9.02	14	$ 126.28
CLIN 1003	Gloves latex (small), 100/pk	$	9.02	10	$ 90.20
CLIN 1003	Glycogen 20mg/ml (diluted Beckman CEQ Glycogen) (2x0.25 ml)	$	115.00	4	$ 460.00
CLIN 1003	Gram Stain Kit	$	57.50	5	$ 287.50
CLIN 1003	Guanidine Thiocyanate 250 g	$	201.01	2	$ 402.02
CLIN 1003	Hand Sanitizer Wipes, Bacillol, 100/pk	$	18.76	52	$ 975.52
CLIN 1003	Heavy Rubber Gloves, 36/pk	$	1,624.39	1	$ 1,624.39
CLIN 1003	Inoculating loop (disposable), 10µl, pack of 2000	$	118.23	2	$ 236.46
CLIN 1003	Isopropanol (500 mL)	$	34.50	2	$ 69.00
CLIN 1003	Lab Guard Plus Polyethylene Specimen Handling Bags -	$	158.06	1	$ 158.06
CLIN 1003	Labeling/indicator tapes	$	23.00	1	$ 23.00
CLIN 1003	LAMDA BIOTECH INC 100BP DNA LADDER	$	224.25	1	$ 224.25
CLIN 1003	Leakproof Specimen Containers non sterile, pack of 500	$	68.77	3	$ 206.31
CLIN 1003	Leakproof Specimen Containers sterile, pack of 100	$	68.77	4	$ 275.08
CLIN 1003	Liquid soap	$	2.35	12	$ 28.20
CLIN 1003	Low-linting wipes, pack of 150	$	31.21	4	$ 136.81
CLIN 1003	Maxima™ Hot Start Taq DNA Polymerase	$	66.70	1	$ 66.70
CLIN 1003	MgSO4, 50 mM	$	230.00	2	$ 460.00
CLIN 1003	Molecular BioProducts™ EasyStart™ PCR Mix-in-a-Tube	$	170.21	4	$ 680.84
CLIN 1003	Molecular weight marker, Fermentas #SM1153, #SM1133	$	72.45	6	$ 434.70
CLIN 1003	Narrow duct tape	$	1.58	10	$ 15.80
CLIN 1003	Narrow medical court plaster	$	3.15	10	$ 31.50
CLIN 1003	NeoPro Green Powder-Free Gloves, L, 100/pk	$	8.63	3	$ 25.89
CLIN 1003	NeoPro Green Powder-Free Gloves, M, 100/pk	$	8.63	5	$ 43.15
CLIN 1003	Nitrile gloves, M, 100/pk	$	10.20	3	$ 30.60
CLIN 1003	Nitrile gloves, S, 100/pk	$	10.20	3	$ 30.60
CLIN 1003	NucleoSpin Tissue (250) 250 prep	$	634.80	6	$ 3,808.80
CLIN 1003	Paper towel 24x24	$	27.60	8	$ 220.80
CLIN 1003	Parafilm, 100x75	$	28.75	1	$ 28.75
CLIN 1003	PCR Clean up kit	$	847.55	2	$ 1,695.10
CLIN 1003	PCR Racks 96-Well(cs/5)	$	25.43	3	$ 76.29
CLIN 1003	PCR tubes (0.2ml, thin walled) 1000/pack	$	245.09	7	$ 1,715.63
CLIN 1003	PCR tubes 1.5 ml 1000/pack	$	41.40	2	$ 82.80

CLIN 1003	Permanent markers for glass	$	4.31	5	$ 21.55
CLIN 1003	Petri dishes sterile 100 mm	$	310.50	7	$ 2,173.50
CLIN 1003	Pipettors	$	86.25	18	$ 1,552.50
CLIN 1003	Polycoated Polypropylene Barrier Gowns, case of 30	$	84.30	1	$ 84.30
CLIN 1003	POLYMYXIN B SULFATE USP, 1MC	$	147.55	8	$ 1,180.40
CLIN 1003	Protective goggles ET-30	$	1.29	10	$ 12.90
CLIN 1003	Proteinase K (100mg)	$	187.45	4	$ 749.80
CLIN 1003	Purell Instant Hand Sanitizers (case of 24)	$	93.43	1	$ 93.43
CLIN 1003	Respirator	$	11.58	10	$ 115.80
CLIN 1003	RevertAid™ Premium Reverse Transcriptase	$	586.50	2	$ 1,173.00
CLIN 1003	RT PCR Grade Water, 30 ml: DEPC treated Water	$	33.32	5	$ 166.60
CLIN 1003	Safety Blood Collection Set (pk of 100)	$	138.00	10	$ 1,380.00
CLIN 1003	Safety box PMMA 330x175x180 mm	$	143.08	2	$ 286.16
CLIN 1003	Safety box rack, stainless steel	$	36.52	2	$ 73.04
CLIN 1003	Safety Pouch Stand	$	85.39	2	$ 170.78
CLIN 1003	Sample containers	$	368.00	1	$ 368.00
CLIN 1003	sampler 1 channel 0,5-10 mkl	$	418.60	2	$ 837.20
CLIN 1003	sampler 1 channel 30 -300 mkl	$	419.75	2	$ 839.50
CLIN 1003	Scalpel Handle No. 4, 13.7cm L, Stainless Steel and 10 No. 22 Blades	$	29.12	1	$ 29.12
CLIN 1003	Scalpel, Stainless Steel	$	5.39	5	$ 26.95
CLIN 1003	Scissors with blunt curved edges	$	7.05	10	$ 70.50
CLIN 1003	Scissors with blunt straight edges	$	7.05	5	$ 35.25
CLIN 1003	Scissors with sharp straight edges	$	7.05	3	$ 21.15
CLIN 1003	Sharps Chute Container	$	101.80	2	$ 809.60
CLIN 1003	Sheep Blood, Defibrinated, 100 ml	$	102.28	10	$ 1,022.80
CLIN 1003	Shoe Covers, case of 100	$	29.54	3	$ 88.62
CLIN 1003	Silica, 1kg	$	57.50	1	$ 57.50
CLIN 1003	SODIUM DODECYL SULFATE, 1 bottle	$	288.80	1	$ 288.80
CLIN 1003	Softa-Man ViscoRub, hand disinfectant, 1000 ml	$	25.23	2	$ 50.46
CLIN 1003	Spray bottle, case of 6	$	50.67	7	$ 354.69
CLIN 1003	SsoFast EvaGreen Supermix, 200 x 20 µl reactions	$	422.28	12	$ 5,067.36
CLIN 1003	Standing rack for pipettors	$	98.90	5	$ 494.50
CLIN 1003	Standing rack for tubes, for 96 microtubes	$	77.58	7	$ 543.06
CLIN 1003	Stationery and other expendable materials:cartridges, toner, etc.	$	57.50	20	$ 1,150.00
CLIN 1003	Sterilizing tray with cover	$	62.10	3	$ 186.30
CLIN 1003	Swine/Pig Anti-Anthrax Protective Antigen 83 (PA83) IgG-specific ELI	$	685.00	25	$ 17,125.00
CLIN 1003	Syringe Needle 21 g	$	34.50	1	$ 34.50
CLIN 1003	Syringe, 10 ml	$	34.50	10	$ 345.00
CLIN 1003	Tape, autoclave indicator	$	7.67	12	$ 92.04
CLIN 1003	Taq DNA Polymerase;	$	462.81	2	$ 925.62

CLIN 1003	Thermo bag	$	57.50	2	$ 115.00
CLIN 1003	tips 0,5 - 10 mkl eppendorf, no filter, case of 960	$	143.75	10	$ 1,437.50
CLIN 1003	tips 2-200 mkl eppendorf, no filter, case of 960	$	143.75	15	$ 2,156.25
CLIN 1003	Tips, no filter, 1000 mkl, case of 960	$	103.50	4	$ 414.00
CLIN 1003	Tips, no filter, 200 mkl, case of 960	$	103.50	23	$ 2,380.50
CLIN 1003	Tough-Tags Adhesive Labels, pack of 1000	$	75.90	1	$ 75.90
CLIN 1003	Towels absorbent for work in the cabinet, 60x90, EURON SOFT Extra, p	$	70.73	5	$ 353.65
CLIN 1003	Towels absorbent for work in the cabinet, EURON SOFT Extra 40*60, pa	$	34.39	5	$ 171.95
CLIN 1003	Transport case (Sarstedt #95.1720, transport case for in house sampl	$	95.78	6	$ 574.68
CLIN 1003	Transport cases (Sarstedt #95.1715, transport case, secondary contai	$	95.78	2	$ 191.56
CLIN 1003	Transport containers 10 l	$	210.45	1	$ 210.45
CLIN 1003	Transport containers 5 l	$	210.45	1	$ 210.45
CLIN 1003	Tris (1 kg)	$	117.48	3	$ 352.44
CLIN 1003	Tris Hydrochloride, 1M, 500 mL, case of 6	$	479.09	1	$ 479.09
CLIN 1003	Tris-EDTA (TE), 10X Solution (pH 7.4/Molecular Biology), Fisher BioR	$	117.45	10	$ 1,174.50
CLIN 1003	Triton X-100	$	56.17	2	$ 112.34
CLIN 1003	TRIZol (200 mL)	$	408.25	1	$ 408.25
CLIN 1003	Tubes for collecting ectoparasits from rodents, 10ml, 250/pk	$	38.92	1	$ 38.92
CLIN 1003	Tularemia diagnostic serum, 10 ampoules x 1,0 ml	$	230.00	1	$ 230.00
CLIN 1003	UltraClean Lab Cleaner (DNA Away) (1L)	$	86.25	3	$ 258.75
CLIN 1003	VANCOMYCIN HYDROCHLORIDE HYDRATE, 250MG	$	234.72	3	$ 704.16
CLIN 1003	Ziplock bags, polyethilene, 10x10 cm, 40 mkm, pk/100	$	1.17	12	$ 14.04
CLIN 1003	Ziplock bags, polyethilene, 25x30cm, 50 mkm, pk/100	$	7.05	5	$ 35.25
CLIN 1003	Ziplock bags, polyethilene, 40x30 cm, 50 mkm, pk/100	$	10.20	3	$ 30.60

(b)(4); (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 29-Jun-15
Project ILP-2
Period of Performance: 16 May 2015 - 15 May 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1004	DBA Insurance	$ 5,907.98	1	5,908
CLIN 1004	Subcontract to CRDF	$ 125,958.00	1	125,958

(b)(4); (b)(6)

TRAVEL ESTIMATE COST

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 29-Jun-15
Proposal: CP-2
Period of Performance: 16 May 2015 15 May 2016

	International	Local	Local	International	International
Traveler:	SME III	SME III	Ukrainian Field team	SME III	Research and Data Analyst
Departure Location:	Manhattan, KS	Kyiv, Ukraine	Kyiv, Ukraine	Gainesville, FL	Gainesville, FL
Destination:	Kyiv, Ukraine	Volyn, Ukraine	Volyn, Ukraine	Kyiv, Ukraine	Kyiv, Ukraine
Purpose:	Field sampling/ground truthing trip	Field sampling/ground truthing trip	Field sampling/ground truthing trip	collaborative work with UCDC and IVM	collaborative work with UCDC and IVM
Airfare/train	$2,850	$100	$100	$2,100	$2,100
Lodging	486	700	700	1,701	1,701
Meals & Incidentals	262	485	185	917	917
Meals & Incidentals (First and Last Travel Days)	197			197	197
Ground Transport	$200	$750	$750	$200	$200
Incidentals (Visa)	57			57	57
# of Lodging Nights	2	5	5	7	7
# of Days	1	5	5	9	9
Total Per Trip	**$4,051**	**$2,035**	**$2,035**	**$5,172**	**$5,171**
No. of trips	1	1	2	3	2
No. of persons	1	1	10	1	1
SUBTOTAL:	**$4,051.04**	**$2,035.00**	**$40,700.00**	**$15,514.50**	**$10,342.08**

GRAND TOTAL
$72,643

USG Foreign Per Diem Rates

Location	Maximum Lodging	M&IE	Total
Kyiv, Ukraine	243	131	374
Ukraine, other	140	97	237

Metabiota's Technical and Cost Proposal

"DTRA/CBEP Research Activity Project UP-2:
Incorporating GIS, Remote Sensing, and Laboratory Diagnostics into Human and Veterinary Disease Surveillance for Tularemia and Anthrax in Ukraine (In Ukraine: "Development of the Epidemiological Forecasting System for Zoonotic Diseases Employing GIS Technology"

Technical Direction Number: TD-012
Contract Number: HDTRA1-14-C-0104
CAGE Code: 56SP4
DUNS number: 828131156

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Executive Summary

In response to Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) regional leadership tasking via the Academic Engagement Partnership (AEP) contract vehicle, Technical Direction 012, Metabiota, Inc. seeks to support the DTRA CBEP mission through the conduction of research to identify the current distribution of especially dangerous pathogens (*F. tularensis* and *B. anthracis*) throughout regions of Ukraine, which is a critical step in mitigating risk of exposure to the aforementioned causative agents. This research effort will help improve disease detection and reporting measures in the Ukrainian human and animal health sectors in support of the DTRA CBEP mission.

This document outlines the approach that Metabiota will employ to accomplish the requirement. In short, Metabiota intends to:

1) Develop a historical GIS-based analyses of tularemia (UCDC) and anthrax (SSCIBSM) data sets, including pathogen passports, field collection records, and field responses (nationwide).
2) Conduct active surveillance for *Francisella tularensis* in ticks and small mammal host populations, with the integration of appropriate culture and PCR-based analyses for detection of the pathogen.
3) Conduct surveillance of livestock herds and environmental sampling for *Bacillus anthracis*, with the integration of appropriate PCR-based detection assays.
4) Develop advanced spatial analyses using GIS and remote sensing approaches to define the geographic distributions of the pathogens and landscape dynamics that effect those distributions.

Project Overview

Introduction

Especially dangerous pathogens (EDPs), including those found naturally in the environment, are a challenge for public health and security infrastructures and pose a significant threat to security and economic stability across the globe. To manage these threats, DTRA CBEP aims to reduce potential impacts of biological threats by enhancing biological safety and security (BS&S), awareness of biological risks, and knowledge related to biological pathogens globally.

To do so, DTRA CBEP works collaboratively with partner nations, other USG agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health; promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner. In EUCOM, specifically, DTRA CBEP seeks to

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increase the understanding of natural incidences of pathogens of security concern in Ukraine in an effort to better manage the threat the threat of infectious disease events.

UP-2: Incorporating GIS, Remote Sensing, and Laboratory Diagnostics into Human and Veterinary Disease Surveillance for Tularemia and Anthrax in Ukraine was originally developed and implemented under the Biological Threat Reduction Integrating Contract (BTRIC) mechanism in 2011. However, this funding mechanism, including all ongoing research efforts, ceased February 2014. In an effort to complete the original research objectives, DTRA CBEP Ukraine leadership tasked Metabiota with implementing the remainder of UP-2 under the AEP program. Through this activity, Metabiota will conduct high-value research that will support strategic DTRA CBEP objectives by increasing regional collaboration on topics critical to biological threat reduction and enhancing the regional capacity to perform biorisk management and mitigate the threat of infectious disease events.

Goals and Objectives

This activity aims to develop both explanatory and predictive, spatially-explicit models to explore the geography and ecology of EDPs, specifically *Francisella tularensis*, the causative agent of tularemia, and *Bacillus anthracis*, the causative agent of anthrax, across Ukraine. Metabiota will do so by using historical data to explore the distribution, seasonality, and ecology of zoonosis at the national scale, while active surveillance and field efforts will concentrate on local scale patterns of land cover change in relation to disease agent, host, and/or vector distributions.

To achieve these purposes, Metabiota will divide this activity into four specific objective categories to learn from the history of these zoonosis while also proactively managing any future threats. These goals are organized to provide long-term, sustainable teams across UP institutes to maintain this and future efforts. Metabiota and their collaborators will:

1) Develop a historical GIS-based analyses of tularemia (UCDC) and anthrax (SSCIBSM) data sets, including pathogen passports, field collection records, and field responses (nationwide).
2) Conduct active surveillance for *Francisella tularensis* in ticks and small mammal host populations, with the integration of appropriate culture and PCR-based analyses for detection of the pathogen.
3) Conduct surveillance of livestock herds and environmental sampling for *Bacillus anthracis*, with the integration of appropriate PCR-based detection assays.
4) Develop advanced spatial analyses using GIS and remote sensing approaches to define the geographic distributions of the pathogens and landscape dynamics that effect those distributions.

Threat Reduction Outcomes

This research will provide valuable insight into the distribution, causative agents, and threat level of tularemia and anthrax in Ukraine. This will not only be beneficial to Ukraine, but can

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be used in the global network of research collaborations and for advancing scientific research, including the early detection of emergent disease threats. Research is critical to capacity building and supports early detection and response to emerging threats, thus safeguarding the world from infectious disease threats. Scientists working on UP-2 will be trained in molecular diagnostic techniques, which will improve time of detection and, potentially, enable earlier treatment. Additionally, these learned skills could be applied to a variety of non-programmatic and more common diseases that are currently circulating in Ukraine. Early identification and response will mitigate potential loss of human and animal life and associated economic burdens. Increased biosafety acumen when working with pathogens, particularly EDPs, is a cornerstone of CBEP engagement. As part of this effort, laboratory personnel will be trained to properly implement biosafety protocols, including donning and doffing personal protective equipment (PPE), as required by the agent in question. Participants will be trained in modern field approaches to rodent and tick collection, reservoir identification, and diagnostic analyses. All engaged personnel will be trained to follow internationally recognized reporting measures (e.g., IHR).

Furthermore, as part of the project implementation process, project stakeholders will provide regular updates to DTRA via Contract Data Requirement Lists (CDRLs). Information presented within these reports will help all stakeholders (e.g., USG and host country ministries) understand potential areas of future engagement to further bolster the host countries capabilities.

Through the implementation of Metabiota-facilitated tularemia and anthrax research, DTRA CBEP will have:

- Developed predictive models for the incidence of tularemia and anthrax;
- Improved and enhanced disease detection, reporting and response systems across Ukraine;
- Assisted the adoption and use of safe handling techniques during collection and analysis of samples to include proper handling, transport, and storage of samples;
- Increased scientific capabilities of Ukrainian partners through research collaboration and by fostering an environment of scientific partnership.

Implementation Overview

Metabiota anticipates UP-2 implementation to closely reflect the process successfully completed the first two years of the project under the BTRIC mechanism, which resulted in nine scientific manuscripts published or in review. Importantly, members of the original development and implementation teams have been secured to continue this engagement. In securing the original research team, Metabiota has ensured that all institutional knowledge of UP-2 remains intact, including those relationships with Ukrainian scientists, which took years to foster. Notably, some UP-2 implementing partners currently lie outside of Metabiota AEP authority, including the BTRIC, Walter Reed Army Institute of Research (WRAIR), and

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University of Florida (UF). The management approach below includes descriptions of how these parties will be managed.

The experimental approach remains consistent with the approach outlined in the Form A that was approved under the BTRIC and the approach documented in the Technical Proposal submitted under the base year of the AEP contract. Project collaborators have identified high priority tasks and strategies for moving forward, which are outlined in the technical approach below.

Management Approach

Project Team Structure

Metabiota will employ its existing organizational leadership to interface with the Regional Science Manager and Country Manager as needed to direct the operational and administrative support required implement the research project. Our Program Manager will oversee research efforts with the support of a Project Coordinator, Travel Coordinator, Research Collaborators and Subject Matter Experts to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Currently, only Kansas State University (KSU) is contracted directly through Metabiota AEP. (b)(6) at WRAIR are to be funded via a MIPR with DTRA CBEP. University of Florida (UF) is funded through the Penn State University (PSU) AEP vehicle. However, we are proposing to bring UF's Research Collaborators into the Metabiota AEP in October 2015 after their current funding via the PSU AEP expires.

This team of experts will ensure the overall project management and tasks associated with the project are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.

Communications Protocols

Metabiota will maintain open communications with both American and Ukrainian collaborators necessary for implementing the project, including any and all partners facilitating logistics for this effort such as DTRO-K (Defense Threat Reduction Office-Kyiv) and Contractor Logistics Support (CLS). In addition, Metabiota will maintain routine communication with DTRA CBEP to ensure they have full visibility on the research project's effort, status, and process of execution.

Execution

The core project management team will maintain oversight and implementation of the project at all times and will ensure rapid execution of research, tracking objectives to ensure the project stays on schedule to complete the training exercises. The project will be managed according to

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the phased implementation plan and will be course corrected, as needed to ensure target end-goals are reached. The following tools will be used to guarantee the project schedule will be maintained:

Project Administration:

1. Conference calls will be held twice each month to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Metabiota and will include the Program Manager, Project Coordinator, Travel Coordinator, Research Collaborators, AEP leadership, and Metabiota BTRIC Ukraine personnel as needed based on the requirements and stage of implementation.
2. Routine calls and communication will be held with DTRA CBEP regional leadership and Metabiota to provide routine status updates and ensure successful implementation.
3. Metabiota will sit in the lead position of this project from an administrative standpoint. While we recognize that it is an unconventional arrangement to have a private company lead scientific collaborators from US academic institutions, a US government agency, and foreign government agencies, this structure successfully implemented the first two years of this project.

Project Reporting:

1. Weekly status reports will be provided by the Program Manager to senior Metabiota leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction, as needed to ensure training goals are met.

Monitoring and Controlling

1. Routine risk assessments will be performed internally among the Metabiota project management team to ensure the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine oversight and coordination will be performed to ensure all relevant parties (including DTRO-K, BTRIC Ukraine, and CLS) are performing in-country logistical requirements to ensure successful execution of the training. Monitoring will include both administrative and fiscal oversight.
3. Routine communications will be maintained with DTRA CBEP regional leadership to ensure the project remains on track and is implemented according to standard.

Completion

Metabiota will drive the project to completion by 15 May 2016 by maintaining a focused project schedule with routine meetings and communication with DTRA CBEP regional leadership to allow for continued coordination, while maintaining targeted objectives. As the activity progresses, Metabiota will provide all required deliverables and after action reports to allow for lessons learned and continuation of activity implementation. Metabiota believes that

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the experience and management it will bring to this project, in collaboration with DTRA CBEP, will guarantee success.

Technical Approach

Key portions of the proposal are highlighted below. Specific technical details on the work to be performed are listed in the attached Form A. Task numbers referenced herein correspond to those from the approved Form A.

Tularemia Project

Project collaborators have identified 3 high priority tasks and strategies for execution:

Priority 1: Task 2.3 PCR and Culture Diagnostics for *Francisella tularensis*
Priority 2: Task 4.3 Remote Sensing
Priority 3: Task 2.1 Survey Methods for Mammals

Priority 1: Task 2.3 PCR and Culture Diagnostics for Francisella tularensis

All samples collected in the field (1,245 rodents and 5,546 ticks) were transported to UCDC for culture and PCR-based diagnostics of *F. tularensis*. Approximately, 60% of samples have been tested using classical and/or modern diagnostic techniques. Results have been varied, with no positive cultures identified, but with several positive PCR results [redacted] will travel to UCDC, review the technology and hardware, and implement the collaboratively developed standard operating procedures and safety protocols for the work required. As part of this task, field samples will be analyzed for *F. tularensis*.

UCDC and US personnel are well suited and qualified for the diagnostic work, and the bulk of exposure phase in this study is to biovar B, where risk of infection is less. BSL 2+ (BSC) conditions and protocols will be maintained throughout the project, with the option to work in BSL-3 if a *F. tularensis* isolate is confirmed by bacteriological and PCR tests.

Metabiota's project team will employ a two-pronged strategy of both real-time and conventional PCR for diagnostic work in the *F. tularensis* portion of UP-2, using extracted DNA from both animal blood and culture positive plates at UCDC. First, initial screens will be conducted using real-time PCR assays, unlabeled oligonucleotide primers, and published primer sequences that are proven for the agents. Second, we will use primers for conventional PCR that are highly specific for *F. tularensis* and use this assay to regularly test random selections from the library of strains cataloged in UP-2 field efforts. The conventional PCR assay will detect genetic loci not targeted by the real-time assays and provide QC via direct comparison with the selected real-time PCR assays. This conventional PCR assay will provide a sub-type by PCR of either biovar A (subspecies *tularensis*) or B (subspecies *holarctica*). If feasible, DNA aliquots from PCR-confirmed positives and potential near-neighbors may be sent to the US for further confirmatory validation. The presence of biovar A is not suspected but, if found would indicate a more serious human public health risk and warrant further attention.

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Priority 2: Task 4.3 Remote Sensing

Because the distribution of tularemia is affected by both land use and land cover (LULC), development of remotely sensed LULC maps is a major component of the UP-2 project. Prior to suspension of the project, the first phase of land cover mapping was nearly complete. This first phase consisted of mapping LULC at 30m spatial resolution using remotely sensed data from the LANDSAT TM\ETM+ sensor series. The classification scheme used was largely based on the European Environmental Administration (EEA) CORINE classification scheme. It was chosen for the following two reasons: 1) it uses hierarchical, generalized classes that can be decomposed into more detailed land use and land cover categories based on available information, and 2) it is compatible with the EEA EUNIS habitat/biotope mapping scheme, allowing project researchers to more directly relate land cover to the habitat of potential tularemia hosts.

At the time of project suspension, CORINE level 1 and 3 maps had been completed, but not validated. The EUNIS habitat map had not been completed. The three major remote sensing tasks for the restarted project will therefore be; convert the CORINE classes to EUNIS categories based on the Level 3 LULC maps. 2) validate the level 1 and 3 CORINE maps and the EUNIS map by field survey. and 3) provide these maps along with a quantitative assessment of their accuracy to the modeling component of activity, using an existing but currently inactive web based geodatabase.

Conversion of the CORINE map to EUNIS categories is a straightforward process, which will be done using the guidelines outlined in Moss and Davis, 2002. The resulting product will be a 30m-resolution habitat/biotope product. The final step in the process will be to relate these "generic" habitat types to the habitat preferences of small mammals in the study area in order to categorize each biotope as potential habitat for specific tularemia hosts. This will be done using a rule-based decision tree classifier, trained using the existing trapping data. Validation of all mapped products will be done via field survey. A stratified random sample of validation sites will be generated for the study site using sampling software tools available in Arc-GIS. These sites will then be visited during the autumn field survey. Each site will be described, photographed, and its land cover and habitat type assessed. For sites where accessibility is difficult, the assessment will be done at a distance using a distal surveying technique developed by the Remote Sensing Research Lab at Kansas State University and used successfully at other field sites (Koch et al., 2007). Once the survey is collected. it will be compared to the LULC maps using standard metrics for evaluating map accuracy (Khorram et al, 2004).

High-risk sites (HRS) will be identified in the region by applying previously described methods (Glass et al., 2000). Results from the local field surveys and laboratory analyses that detect *F. tularensis* in small mammals generate a spectral signature of HRS by establishing the relationship between the likelihood of a location yielding infected small mammals and the environmental conditions measured by remote sensing data. Depending on the outcome of

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laboratory testing, alternative models can be developed. Outcome measures of sites yielding either infected animals or not (binary), abundance of infected animals (counts,) or the population density of infected animals (rates) can be used as the outcome to be measured in this design.

Environmental predictors of the outcome are derived from remote sensing data and use the ground truth data obtained during field sampling for final interpretation. Environmental inputs from remote sensing can use the original data, such as reflectance intensities in various portions of the electromagnetic spectrum, land use/land cover classifications or more traditional data products interpreted from the remote sensing data, such as band ratios to identify vegetation greenness, moisture, soil minerals, or drainage patterns.

Once a classifier of *F. tularensis* in mammal populations is identified for the region, a follow-up validation survey is required to confirm the robustness of the results. Predictions of other sites that are likely to have mammals with *F. tularensis* are derived from the remote sensing data and are one of the outputs of the analysis (e.g. see Figures 7 and 8). A final field season will be devoted to randomly selecting and surveying a sufficient number of new locations (40-50 sites as in previous years) to determine if the probability of infection in local mammal populations matches that predicted from the model.

Priority 3: Task 2.1 Survey Methods for Mammals

The original UP-2 effort conducted small mammal collections under protocols approved by the Institutional Animal Care and Use Committee (IACUC) of Johns Hopkins University (JHU) and secondarily approved by the U.S. Army's Medical Research and Materiel Command's Animal Care and Use Review Office (ACURO). These approvals have expired in the intervening time period. The original collaborator from JHU has moved to the University of Florida – Gainesville (UF), the home institution of some of the other project collaborators. They are in the process of seeking new IACUC approval through UF. Importantly, no small mammal collection events will take place until approved IACUC and ACURO protocols are in place.

Currently we are anticipating one field expedition in autumn 2015, but may try to execute an additional trip in spring 2016. Historically, during weeklong sampling trips, we have covered five sites early in the week and another set of five sites later in the week. This covers 10 locations during a weeklong trip with an additional day or two for ancillary collections at some sites. During an optional second week of sampling, the sampling scheme will be repeated at 10 new locations. In total, this method has resulted in sampling at ~20 sites during each 2-week spring survey and 20 sites during each 2-week autumn survey. All mammal collections have been mapped with PDA-GIS handheld device and stored for integration into the master GIS stored at UCDC.

Specimens from collected animals will be processed according to protocols for *F. tularensis* detection and frozen tissues and blood samples will be deposited in appropriate transport and

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storage liquid and go to UCDC. These materials will be accessioned to UCDC. Results of pathogen detection in individual animals will be linked with the capture records to identify the species that are commonly infected, where they occur relative to geographic location and habitat characteristics as well as their demographic characteristics (e.g. sex bias, age bias, season of capture, etc.).

Vector surveillance efforts will focus primarily on ticks, with some secondary effort to collect ectoparasites from small mammals surveyed during the project. All tick sampling will accompany mammal collections and occur at each mammal-sampling site. Tick sampling is accomplished by two means: flagging/dragging, and collections from animal hosts (Ginsberg and Ewing, 1989). Collection locations will be mapped using handheld GPS devices. Pertinent ecological and environmental data (e.g. vegetative cover, temperature, elevation, slope, aspect, etc.) will be collected for each of the sampling locations in all oblasts and their associated rayons. All data will be downloaded into a database and analyzed using appropriate software, such as ArcGIS.

Anthrax Project

Project collaborators have identified 4 high priority tasks and strategies for execution:

Priority 1: Task 4.2 Ecological Niche Modeling
Priority 2: Subtask 3.1.1 Sampling of Blood from Animals without Clinical Symptoms
Priority 3: Task 3.1 Sampling at Places of Contemporary and Recent (2-5 years) Anthrax Outbreaks
Priority 4: Task 3.2 Laboratory Analyses

Priority 1: Task 4.2 Ecological Niche Modeling

This study will develop both "ecological niche models" and "distributional models". Ecological niche models are those that develop predicted geographic distributions of a target species' ecological niche. Ecological niche modeling has been shown to be useful in several disease studies (Blackburn et al 2007).

We also will employ the Genetic Algorithm for Rule-Set Production (GARP). GARP is a genetic algorithm that evolves ecological niche models iteratively through training and testing. The outcomes are rule sets, in the form of logic strings, which describe the relationships between the point locality data (outbreak localities) and environmental data layers (Blackburn et al., 2007).

In addition, this study will employ a number of distributional modeling approaches to identify areas of potential disease presence. Distributional models follow a more classical approach to modeling and identifying areas of greatest likelihood for the existing distribution of point localities to occur (Rogers, 2006). There are important academic differences in ecological niche and distributional modeling assumptions and predictions, and the exercises will provide

modeling experience to UP-2 personnel that will train scientists in academic discussions on modeling approaches.

A large number of environmental data layers that represent global data coverage have successfully been employed in other disease modeling projects. These include raster coverage data sets of soil type, vegetation indices, climatic and precipitation parameters (including several biologically important derivatives of climate and precipitation), elevation, livestock densities, and human population. These data sets are available at several resolutions ranging from 250 m x 250 m to 8 km x 8 km. The UP-2 GIS efforts will leverage these environmental data sets to develop ecological models and spatial analyses to better understand the geographic distribution and transmission cycles of these EDPs.

While the majority of remote sensing proposed in UP-2 will be dedicated to the study of tularemia, we will use the Tasseled Cap (Kauth-Thomas) Transformation (TCAP) on Landsat 5 data for our field sampling sites. Elsewhere, we have successfully identified local-scale conditions on the landscape where soil minerals and organic material are concentrated by topography and hydrology. These identifiable areas have discrete remote sensing signatures that may link outbreak conditions to specific locations on the landscape. We will perform a preliminary TCAP analysis of satellite data specific to the field sampling for anthrax in UP-2.

Site access to veterinary laboratories for foreign scientists has, at times, been challenging. To ensure overall success of this requirement, it is imperative that Drs. Blackburn and Goodin work closely with Institute of Veterinary Medicine (IVM) personnel. Should site access issues persist, IVM personnel will travel to the UF's SEER and KSU's Remote sensing laboratories for additional training with Drs. Blackburn and Goodin, respectively.

Priority 2: Subtask 3.1.1 Sampling of Blood from Animals without Clinical Symptoms
Blood will be taken from wild boars through ongoing wildlife sampling for swine fever in Ukraine (outside the scope of this project). Blood samples will be drawn aseptically into sterile tubes containing Na-EDTA. To date, veterinary personnel in UP-2 have up to 1000 serum samples from the past several years. These samples are available for UP-2 to test and map at the rayon level. This work will expand the Bagamian et al. 2014 work on wild boar anthrax testing.

Priority 3: Task 3.1 Sampling at Places of Contemporary and Recent (2–5 years) Anthrax Outbreaks
If time and schedule permits, we will initiate two 10-day field trips to areas with anthrax outbreaks documented in the last two to five years. When active anthrax outbreaks are reported, the UP-2 field team from IVM will travel to the site, map the outbreak with GPS units, collect samples from dead animals and blood from any living members of the affected herds. We will also initiate soil and environmental sampling efforts in these areas to test for the presence of spores in the area. These sampling trips will focus on recent historical outbreak data and local

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veterinary knowledge. We will initiate a laboratory inspection and review for biosafety and quality control in the first quarter of this project.

Environmental samples will be taken in sterile bags. Soil at the place of the outbreak will be taken from the depths of 4 cm as well as from the surface of the ground. Grass at the place of the outbreak will be taken near the ground surface or with roots. These materials will be tested for the presence of *B. anthracis* using PCR.

Priority 4: Task 3.2 Laboratory Analyses
For PCR analyses, either the commercially available kit or in-house developed methodologies will be used. In-house primers are designed to perform multiplex PCR using electrophoresis. The in-house methodology comprises the module for total DNA extraction from different types of pathological samples as well as from environmental samples as well as the module for amplification of pX01 and pX02 plasmid markers and 1 chromosomal marker. Additionally, up to 7 chromosomal markers (VNTR locus and gene *sap)* and several markers from both plasmids (*cap*, total *pA* gene) will be amplified and monitored. The set of primers amplifying these markers ensures reliable *B. anthracis* detection and its differentiation from antracoides. DNA aliquots from extraction preparations from new field samples may also be sent to the US for confirmatory molecular diagnostics.

Risk Management

In order to maintain course action and guarantee trainings that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown on the next page as Table 1. Identifying and acknowledging the risks associated with not implementing this training, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Schedule						
Project Coordination	UP-2 involves a significant number of parties on both the US and Ukrainian sides, putting implementation activities at risk of delay or cancellation.	5	3	Medium	Establish and hold regular calls with all stakeholders and identify multiple possible implementation dates. Identify critical components as early as possible and redirect efforts when it becomes clear targeted implementation dates will not be achievable.	(b)(4); (b)(6)
Performance						
Political Instability	Ukraine's current political situation may lead to risks of being unable to safely complete in-country work.	3	5	(b)(4); (b)(6)	Metabiota has in-country personnel knowledgeable of the operating environment, and will coordinate closely with DTRO-K and all other	

				(b)(4); (b)(6)	relevam parties to operate as safely as possible.	(b)(4); (b)(6)
Procurement of perishable supplies	Some consumables necessary for the implementation of this project must be procured in the US, and shipped via single shipper.	5	4		Work with CLS on streamlining procurement and continue seeking options to procure supplies in country.	Medium
Loss of key research collaborators	Two key research collaborators are only funded through September via PSU AEP.	4	5		Issue a subcontract to UF research collaborators to work via Metabiota AEP.	(b)(4); (b)(6)

Cost Management

The Metabiota team and all partners will maintain an acute focus on cost management to ensure that the training is delivered at a reasonable cost to the government. Our team will provide full oversight to ensure accurate and responsive financial reporting and will facilitate cost savings to wherever possible. Metabiota will follow procurement regulations ensuring the best value is obtained under the time constraints using all means available.

Budget Narrative

Period of Performance

The Period of Performance for this effort is May 16, 2015 to May 15, 2016.

Labor

Costs for direct labor to support this activity is required for the following personnel:

- Metabiota Program Manager: (b)(6) will oversee implementation of the research project to include management of deliverables, logistics, procurement, and tracking of project requirements. The Program Manager will lead coordination activities between US-based research collaborators, DTRA, and the Ukrainian collaborators.
- Metabiota Project Coordinator (Trainer I): to assist in coordinating project activities, to include assisting in management of deliverables, logistics, procurement, tracking of project requirements, deliverables and logistics. The Project Coordinator will assist the Program Manager in the coordination of all Research Collaborators.
- Kansas State University Research Collaborator (Subject Matter Expert III, (b)(6) (b)(6) and Research and Data Analyst (graduate student to be appointed): to execute remote sensing-related tasks and integrate these data with ecological niche modeling and laboratory analyses.
- University of Florida Research Collaborators (Subject Matter Experts III (b)(6) and (b)(6) and Research and Data Analysts, 2 graduate students to be appointed), to execute animal sampling, GIS mapping, and ecological niche modeling-

related tasks and integration with remote sensing and laboratory analyses. These individuals are currently funded through September 2015 via the PSU AEP vehicle. Metabiota AEP is proposing to add these individuals in October 2015 to maintain operational continuity.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials

The detailed list of materials and supplies that are needed to carry out proposed research, their quantity, unit cost and corresponding catalog number are indicated in the project budget. The unit cost is estimated on the basis of the price that the manufacture or vendor provided at their websites. If the specific item's price is unavailable in open sources, the cost is budgeted as an average quote from local vendors. All materials and supplies are defined by the following categories at the corresponding organization. It is expected that CLS will manage shipment of supplies procured CONUS.

Materials & Supplies for Laboratories at UCDC. Within the framework of the project it is expected to obtain up to 3.000 samples (both tick pools and rodent's organs) for testing by PCR and bacteriology. Provided costs are required to support research materials, supplies and consumables needed to carry out laboratory analysis at UCDC. Such supplies include, Personal Protection Equipment (PPE) needed to provide biosafety standards (relates to tasks 2.1, 2.2, and 2.3), reagents and supplies for DNA extraction and PCR (relates to task 2.3), reagents and supplies for bacteriological culture (task 2.3), general laboratory and office supplies ((i.e., copier paper, writing tools, binding supplies, copier supplies, postage, toners cartridge, other miscellaneous supplies, etc.) that will be used by staff to carry out daily activities on the project and relates to all tasks.

Materials & Supplies for Laboratory at VOLC. Provided costs are required for research materials, supplies and consumables needed to carry out sample processing at VOLC (Tasks 2.1, 2.2). Such supplies include items like PPE, dissection tools, disinfectants, vials and tubes, general laboratory supplies that are needed for sample processing, storage, and disposal of used materials.

Materials & Supplies for Tularemia field efforts. Provided costs are required for research materials, supplies and consumables needed to carry out field collection efforts. Such supplies include items for setting up field activity, collecting samples, clean up, and miscellaneous (drinking water, first aid kits, Insect repellent, etc.). Additionally, a request was made to upgrade the tires for the TADR Response Vehicle (TRV) that was provided to Volyn Oblast Laboratory Center by B&V during implementation of the DTRA Program in Ukraine. This vehicle was equipped to meet the needs of the field team and was used during previous

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collection events. It is planned to use this vehicle for the project, however new tires are required to provide safe transportation.

Materials & Supplies for IVM Laboratories. 1000 boar serum and 300 field samples will be provided for testing. Provided costs are required for research materials, supplies and consumables needed to carry out anthrax efforts in the proposed research (tasks 3.1 and 3.2). These supplies will include PPE, needed to provide biosafety standards; sample handling, storage, and dispensing; reagents and supplies for PCR, ELISA, and bacteriology; and other laboratory supplies that that will be used by staff to carry out daily activities.

Materials & Supplies for anthrax field efforts. Provided costs are required for research materials, supplies and consumables needed to carry out the proposed research and include item for safety sample collection, transportation, and storage, as well provide BS&S standards.

Other Direct Costs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all subcontractors for the period of performance of this project. Metabiota personnel performing on this project are already insured.

CRDF Global is an independent nonprofit organization that promotes international science collaborations and full-service grant administration. Metabiota will engage CRDF Global for disbursement of funds to Ukrainian project recipients as well as grant payments to institutions participating in the UP-2 project. CRDF will provide Metabiota with transparent monitoring and detailed reporting of the grant payments.

Subcontracts

A subcontract will be issued to Kansas State University for time provided by their staff, as well as computer licenses they will procure in support of this effort. Assuming Metabiota assumes support in October 2015 of the research collaborators from the University of Florida, a subcontract will also be issued to University of Florida for time provided by their staff. Costs are captured under the appropriate labor categories in CLIN 1002 and licenses in CLIN 1003 of the budget.

Travel

International travel is requested to support research partners to facilitate project implementation and conduct training and supportive activities in this effort. We anticipate sending Kansas State University Research Collaborator to Volyn, Ukraine during autumn 2015 to perform remote sensing and ground truthing activities. The proposed project also requires local travel of Ukrainian participants to Volyn to conduct field sampling, remote sensing, and ground truthing research activities in autumn 2015.

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Assuming Metabiota assumes support in October 2015 of the research collaborators from the University of Florida, we are also budgeting for two (2) one-week trips to collaborate with laboratories at UCDC and IVM, and one (1) one-week trip for an additional field sampling expedition in spring 2016.

Conclusion

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP in the implementation of the UP-2: Incorporating GIS, Remote Sensing, and Laboratory Diagnostics into Human and Veterinary Disease Surveillance for Tularemia and Anthrax in Ukraine. Metabiota will ensure, through strong project management and risk management that the activity will be executed in an efficient and timely manner delivering a top quality research project geared to support enhanced biosurveillance and biosafety efforts in the region.

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Team Metabiota Overview

Metabiota is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science, including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in 20 countries and offices in San Francisco, Washington, China, Canada, and Sierra Leone.

Metabiota currently supports a number of Defense Threat Reduction Agency Cooperative Biological Engagement Program (DTRA CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. Metabiota`s mission aligns well with DTRA CBEP, and the entire Metabiota team is focused on supporting our USG Partners in reducing the risk of biological threats worldwide, and employs a collaborative and agile approach to biological risk reduction.

To ensure successful project implementation, Metabiota, in coordination with DTRA CBEP regional leadership and in country partners have built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGO) whose respective aims could impact DTRA CBEP objectives.

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OPTION YEAR - One Health Epi Training for Cohort 9-10

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: July 6,2015
PERIOD OF PERFORMANCE: May 15 - Dec 31, 2015
PROJECT: One Health Epi-Uganda

oaded based on MOD 18)	Hours		Amount
[redacted]	304	$	[redacted]
	391	$	
	2	$	
	1,175	$	
	303	$	
	16	$	
	304	$	
Total Labor Costs (fully loaded):	**2,496**		
OTHER DIRECT COSTS *(fully loaded)*:			
Materials		$	21,054.00
ODC's		$	12,146.51
Travel		$	50,168.00
[redacted]			[redacted]

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: July 6,2015
Project One Health Epi-Uganda
Period of Performance: 'May 15 - Dec 31, 2015

OHE-Uganda No.	Labor Description	Cost	Total Hours	Total Billable Amount $
OHE 0104		(b)(4); (b)(6)	304	(b)(4); (b)(6)
OHE 0104			1,175	
OHE 0104			2	
OHE 0104			391	
OHE 0104			303	
OHE 0104			16	
OHE 0104			304	

MATERIALS ESTIMATE

Contract Name: Academic Engagement Partnership Program
Contract Number: IHDTRA1-14-C-0104
Date Prepared: 6-Jul-15
Project IOHE-Uganda
Period of Performance: May 15 Dec 31, 2015

OHE No.	Item	Cost	Number of Req.	Total Billable Amount $
OHE 0104	Internet Data Packages	$		
OHE 0105	Mobile Data Packages (International and Local)	$		
OHE 0107	TOTAL			

(b)(4); (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 6-Jul-15
Project OIE Uganda
Period of Performance: May 15 - Dec 31, 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
OIE Uganda	DBA Insurance	$ 9,301.97	1	9,302

(b)(4); (b)(6)

TRAVEL ESTIMATE COST

Contract Name: Academic Engagement Partnership Program
Contract Number: HDTRA1-14-C-0104
Date Prepared: 6-Jul-15
Proposal: OHE-Uganda
Period of Performance: May 15 - Dec 31, 2015

	Foreign	
Traveler:	(b)(4); (b)(6)	
Departure Location:	IAD	
Destination:	Uganda	
Purpose:	OHE 1-week training - Wakiso; 13-17 July 2015, travel dates - 10 and 19 July	
Airfare	$	1,070.00
Service Fee/Airfare	$	13.00
Lodging - 1 night @ Entebbe	$	-
Lodging - 7 nights @ Wakiso	$	134.00
Meals + Incidentals (2 travel days, 6 full days)	$	360.00
Ground Transport-US	$	300.00
Ground Transport-Entebbe-Wakiso-Entebbe	$	900.00
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	250.00
Other (comm costs, Internet etc)	$	
Visa	$	244.00
# of Days		8
Total Per Trip	**$**	**6,601.00**
No. of trips		1
No. of persons		2
SUBTOTAL:	**$**	**13,202.00**

	Foreign	
Traveler:	(b)(4); (b)(6)	
Departure Location:		
Destination:	Uganda	
Purpose:	OHE 2-week training: Hoima, Sept 7-18, travel days - 01 and 20 Sept	
Airfare	$	2,000.00
Service Fee/Airfare	$	13.00
Lodging - 1 night @ Entebbe	$	-
Lodging - 14 nights @ Wakiso	$	806.00
Meals + Incidentals (2 travel days, 12 full days)	$	618.00
Ground Transport-US	$	300.00
Ground Transport-Entebbe-Wakiso-Entebbe	$	900.00
Registration Fee	$	-
Insurances (DBA, SOS)		
Vaccinations/Malarone	$	200.00
Other (comm costs, Internet etc)		
Visa	$	244.00
# of Days		14
Total Per Trip	**$**	**5,141.00**
No. of trips		1
No. of persons		2
SUBTOTAL:	**$**	**10,282.00**

	Foreign	
Traveler:	(b)(4); (b)(6)	
Departure Location:	IAD	
Destination:	Uganda	
Purpose:	OHE 1-week training: Hoima; 09-13 Nov; travel days: 06 and 15 Nov	
Airfare	$	2,000.00
Service Fee/Airfare	$	13.00
Lodging - 1 night @ Entebbe	$	-
Lodging - 7 nights @ Hoima	$	134.00
Meals + Incidentals (2 travel days, 6 full days)	$	360.00
Ground Transport-US	$	300.00
Ground Transport Entebbe-Hoima-Entebbe	$	1,000.00
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations Malarone	$	200.00
Other (comm costs, Internet etc)	$	
Visa	$	244.00
# of Days		8
Total Per Trip	**$**	**4,581.00**
No. of trips		1
No. of persons		2
SUBTOTAL:	**$**	**9,162.00**

	Foreign	
Traveler:	(b)(4); (b)(6)	
Departure Location:	Freetown, Sierra Leone	
Destination:	Uganda	

	Foreign	
Traveler:	(b)(4); (b)(6)	
Departure Location:	Freetown, Sierra Leone	
Destination:	Uganda	

Purpose:	OHE 2-week training: Wakiso, Sept 7-18: travel days: 04 and 20 Sept	
Airfare	$	6,500.00
Service Fee/Airfare	$	43.00
Lodging / 1 night @ Entebbe	$	144.00
Lodging / 13 nights @ Wakiso	$	806.00
Meals / Incidentals (2 travel days: 12 full days)	$	618.00
Ground Transport Freetown	$	350.00
Ground Transport Entebbe-Hoima-Entebbe (included into DFMB	$	350.00
Registration Fee	$	-
Insurances (DBA, SOS)		
Vaccinations/Malarone	$	200.00
Other (comm costs, Internet etc)	$	-
Visa	$	50.00
# of Days		14
Total Per Trip	$	9,091.00
No. of trips		1
No. of persons		1
SUBTOTAL:	$	9,091.00

Purpose:	OHE 1-week training: Hoima: 09-13 Nov; travel days: 06 and 15 Nov	
Airfare	$	6,500.00
Service Fee/Airfare	$	43.00
Lodging/ 1 night @ Entebbe	$	144.00
Lodging / 7 nights @ Hoima	$	434.00
Meals / Incidentals (2 travel days; 6 full days)	$	360.00
Ground Transport Freetown	$	350.00
Ground Transport, Entebbe-Wakiso-Entebbe	$	350.00
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	200.00
Other (comm costs, Internet etc)	$	-
Visa	$	50.00
# of Days		8
Total Per Trip	$	8,431.00
No. of trips		1
No. of persons		1
SUBTOTAL:	$	8,431.00

TOTAL TRAVEL BUDGET:	$50,168

USG Foreign Per Diem Rates
(http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1239)

Location	Maximum Lodging	M&IE	Total
Wakiso/Hoima	62	48	110

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET
(b)(4); (b)(6)						(b)(4); (b)(6)
	FT	Program Manager	Technical Manager	66	$	
	FT - PT	Research and Data Analyst	Project Coordinator	70	$	
	FT	SME I	Project Support	16	$	
	FT	Program Manager	Program Manager	5	$	
	FT	Program Manager	Program Manager	234	$	
	FT - PT	Research and Data Analyst	Project Coordinator	234	$	
	FT	Trainer III	Technical Manager	151	$	
	FT	Trainer II	Training Administrator	2	$	
	FT	SME III	Subject Matter Expert	63	$	
	FT	Trainer III	Technical Manager	240	$	
	FT	Trainer I	Field Epidemiologist	215	$	
	FT	SME III	Subject Matter Expert	240	$	
	IC	Trainer I	In Country Trainer Mod 1	120	$	
	IC	Trainer I	In Country Trainer Mod 1	120	$	
	IC	Trainer I	In Country Trainer Mod 1	120	$	
	IC	Trainer I	In Country Trainer Mod 1	120	$	
	IC	Trainer I	In Country Trainer Mod 2	120	$	
	IC	Trainer I	In Country Trainer Mod 2	120	$	
	IC	Trainer I	In Country Trainer Mod 2	120	$	
	IC	Trainer I	In Country Trainer Mod 2	120	$	
	FT	Program Manager	Program Manager	234	$	
	FT	Program Manager	Technical Manager	66	$	
	FT	Trainer III	Technical Manager	391	$	
	FT	Trainer II	Training Administrator	2	$	
	FT - PT	Research and Data Analyst	Project Coordinator	304	$	
	FT	Trainer I	Field Epidemiologist	215	$	
	FT	SME III	Subject Matter Expert	303	$	
	IC	Trainer I	In Country Trainer	240	$	
	IC	Trainer I	In Country Trainer	240	$	
	IC	Trainer I	In Country Trainer	240	$	
	IC	Trainer I	In Country Trainer	240	$	
	FT	SME I	Project Support	16	$	
	FT	Program Manager	Program Manager	5	$	

OPTION YEAR - One Health Epi Training for Cohort 9-10

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: August 12,2015
PERIOD OF PERFORMANCE: May 15 - Feb 29, 2015
PROJECT: One Health Epi-Uganda

oaded based on MOD 18)	Hours		Amount
(b)(4); (b)(6)	304	$	(b)(4); (b)(6)
(b)(4); (b)(6)	81	$	
	527	$	
	303	$	
	16	$	
	1,264	$	
bor Costs (fully loaded):	**2,495**		
OTHER DIRECT COSTS *(fully loaded)*:			
Materials		$	21,054.00
ODC's		$	12,146.51
Travel		$	50,168.00
Total Other Direct Costs (fully loaded):			(b)(4); (b)(6)
Total: Estimated Future OHE			

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: July 6,2015
Project One Health Epi-Uganda
Period of Performance: 'May 15 - Dec 31, 2015

OHE-Uganda No.	Labor Description	Cost	Total Hours	Total Billable Amount $
OHE 0104	[redacted]	$	304	
OHE 0104		$	527	
OHE 0104		$	81	
OHE 0104		$	303	
OHE 0104		$	16	
OHE 0104		$	1,264	

(b)(4); (b)(6)

MATERIALS ESTIMATE

Contract Name: Academic Engagement Partnership Program
Contract Number: IHDTRA1-14-C-0104
Date Prepared: 6-Jul-15
Project IOHE-Uganda
Period of Performance: May 15 Dec 31, 2015

OHE No.	Item	Cost	Number of Req.	Total Billable Amount $
OHE 0104	Internet Data Packages	$ 2,500.00	4	$ 10,000.00
OHE 0105	Mobile Data Packages (International and Local)	$ 2,500.00	4	$ 10,000.00
OHE 0107	TOTAL			$ 20,000.00

(b)(4); (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 6-Jul-15
Project OIE Uganda
Period of Performance: May 15 - Feb 29, 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
OIE Uganda	DBA Insurance	$ 9,301.97		(b)(4); (b)(6)

TRAVEL ESTIMATE COST

Contract Name: Academic Engagement Partnership Program
Contract Number: HDTRA1-14-C-0104
Date Prepared: 12-Aug-15
Proposal: OHE-Uganda
Period of Performance: May 15 - Feb 29, 2015

	Foreign	
Traveler:	[redacted]	
Departure Location:	TAD	
Destination:	Uganda	
Purpose:	OHE 1-week training - Location TBD, travel dates TBD	
Airfare	$	1,070.00
Service Fee/Airfare	$	13.00
Lodging/ 1 night @ Entebbe	$	-
Lodging / 7 nights @ TBD	$	134.00
Meals / Incidentals (2 travel days, 6 full days)	$	360.00
Ground Transport US	$	300.00
Ground Transport Entebbe-TBD-Entebbe	$	900.00
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	250.00
Other (comm costs, Internet etc)	$	-
Visa	$	244.00
# of Days		8
Total Per Trip	**$**	**6,601.00**
No. of trips		1
No. of persons		2
SUBTOTAL:	**$**	**13,202.00**

	Foreign	
Traveler:	[redacted] (b)(4); (b)(6)	
Departure Location:	TAD	
Destination:	Uganda	
Purpose:	OHE 2-week training; Location TBD; Travel dates, TBD	
Airfare	$	2,000.00
Service Fee/Airfare	$	13.00
Lodging/ 1 night @ Entebbe	$	-
Lodging / 13 nights @ TBD	$	806.00
Meals / Incidentals (2 travel days, 12 full days)	$	648.00
Ground Transport US	$	300.00
Ground Transport Entebbe-TBD-Entebbe	$	900.00
Registration Fee	$	-
Insurances (DBA, SOS)		
Vaccinations/Malarone	$	200.00
Other (comm costs, Internet etc)		
Visa	$	244.00
# of Days		14
Total Per Trip	**$**	**5,141.00**
No. of trips		1
No. of persons		2
SUBTOTAL:	**$**	**10,282.00**

	Foreign	
Traveler:	[redacted] (b)(4); (b)(6)	
Departure Location:	Freetown, Sierra Leone	
Destination:	Uganda	

	Foreign	
Traveler:	[redacted] (b)(4); (b)(6)	
Departure Location:	TAD	
Destination:	Uganda	
Purpose:	OHE 1-week training; Location TBD; travel day TBD	
Airfare	$	2,000.00
Service Fee/Airfare	$	13.00
Lodging/ 1 night @ Entebbe	$	-
Lodging / 7 nights @ TBD	$	134.00
Meals / Incidentals (2 travel days, 6 full days)	$	360.00
Ground Transport US	$	300.00
Ground Transport Entebbe-TBD-Entebbe	$	1,000.00
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations Malarone	$	200.00
Other (comm costs, Internet etc)	$	-
Visa	$	244.00
# of Days		8
Total Per Trip	**$**	**4,581.00**
No. of trips		1
No. of persons		2
SUBTOTAL:	**$**	**9,162.00**

	Foreign	
Traveler:	[redacted] (b)(4); (b)(6)	
Departure Location:	Freetown, Sierra Leone	
Destination:	Uganda	

Purpose:	OHE 2-week training: Location TBD, travel days: TBD	
Airfare	$	6,500.00
Service Fee/Airfare	$	43.00
Lodging / 1 night @ Entebbe	$	144.00
Lodging / 13 nights @ TBD	$	806.00
Meals / Incidentals (2 travel days: 12 full days)	$	648.00
Ground Transport Freetown	$	350.00
Ground Transport, Entebbe-TBD Entebbe (include if into DC MB	$	350.00
Registration Fee	$	-
Insurances (DBA, SOS		
Vaccinations Malarone	$	200.00
Other (comm costs, Internet etc)	$	-
Visa	$	50.00
# of Days		14
Total Per Trip	**$**	**9,091.00**
No. of trips		1
No. of persons		1
SUBTOTAL:	**$**	**9,091.00**

Purpose:	OHE 1-week training: Location TBD travel days:TBD	
Airfare	$	6,500.00
Service Fee/Airfare	$	43.00
Lodging/ 1 night @ Entebbe	$	144.00
Lodging / 7 nights @ TBD	$	434.00
Meals / Incidentals (2 travel days; 6 full days)	$	360.00
Ground Transport Freetown	$	350.00
Ground Transport, Entebbe-TBD Entebbe	$	350.00
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	200.00
Other (comm costs, Internet etc)	$	-
Visa	$	50.00
# of Days		8
Total Per Trip	**$**	**8,431.00**
No. of trips		**1**
No. of persons		1
SUBTOTAL:	**$**	**8,431.00**

TOTAL TRAVEL BUDGET:	**$50,168**

USG Foreign Per Diem Rates
(http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1239)

Location	Maximum Lodging	M&IE	Total
Wakiso/Hoima	62	48	110

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET	FTE Support by Activity	IC Support by Activity
(b)(4); (b)(6)								
	FT	Program Manager	Technical Manager	61				
	FT-PT	Research and Data Analyst	Project Coordinator	70				
	FT	SME I	Project Support	16				Total:
	FT	Program Manager	Program Manager	3	$		4	0
	FT	Program Manager	Program Manager	241	$			Total:
	PT	Research and Data Analyst	Project Coordinator	234	$		2	0
	FT	Trainer III	Technical Manager	41	$			
	FT-PT	Trainer I	Training Administrator	2	$			Total:
	FT	SME III	Subject Matter Expert	63	$		3	0
	FT	Trainer III	Technical Manager	80	$			
	FT	Trainer I	Training Administrator	310	$			
	FT	Trainer I	Field Epidemiologist	215	$			
	FT	SME III	Subject Matter Expert	240	$			
	IC	Trainer I	In Country Trainer Mod 1	220	$			
	IC	Trainer I	In Country Trainer Mod 1	220	$			
	IC	Trainer I	In Country Trainer Mod 1	220	$			
	IC	Trainer I	In Country Trainer Mod 1	220	$			
	IC	Trainer I	In Country Trainer Mod 2	220	$			
	IC	Trainer I	In Country Trainer Mod 2	220	$			
	IC	Trainer I	In Country Trainer Mod 2	220	$			Total:
	IC	Trainer I	In Country Trainer Mod 2	220	$		3	4
	FT	Program Manager	Program Manager	241	$			
	FT	Program Manager	Technical Manager	61	$			
	FT	Trainer III	Technical Manager	81	$			
	FT-PT	Trainer I	Training Administrator	312	$			
	FT-PT	Research and Data Analyst	Project Coordinator	304	$			
	FT	Trainer I	Field Epidemiologist	215	$			
	FT	SME III	Subject Matter Expert	303	$			
	IC	Trainer I	In Country Trainer	240	$			
	IC	Trainer I	In Country Trainer	240	$			
	IC	Trainer I	In Country Trainer	240	$			
	IC	Trainer I	In Country Trainer	240	$			
	FT	SME I	Project Support	16	$			Total:
	FT	Program Manager	Program Manager	3	$		8	4

(b)(4); (b)(6)

OPTION YEAR - One Health Epi Training for Cohort 9-10

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: August 12,2015
PERIOD OF PERFORMANCE: May 15 - Feb 29, 2015
PROJECT: One Health Epi-Uganda

oaded based on MOD 18)	Hours		Amount
nager	305	$	(b)(4); (b)(6)
(b)(4); (b)(6)	81	$	
	527	$	
	303	$	
	16	$	
	1,264	$	
Total Labor Costs (fully loaded):	**2,496**		
OTHER DIRECT COSTS *(fully loaded)*:			
Materials		$	21,054.00
ODC's		$	12,146.51
Travel		$	45,828.00

(b)(4); (b)(6)

(b)(4); (b)(6)

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: July 6,2015
Project One Health Epi-Uganda
Period of Performance: 'May 15 - Dec 31, 2015

OHE-Uganda No.	Labor Description	Cost	Total Hours	Total Billable Amount $
OHE 0104	(b)(4); (b)(6)	$	304.5	(b)(4); (b)(6)
OHE 0104		$	527.0	
OHE 0104		$	81.0	
OHE 0104		$	303.0	
OHE 0104		$	16.0	
OHE 0104		$	1,264.0	

MATERIALS ESTIMATE

Contract Name: Academic Engagement Partnership Program
Contract Number: IHDTRA1-14-C-0104
Date Prepared: 6-Jul-15
Project IOHE-Uganda
Period of Performance: May 15 Dec 31, 2015

OHE No.	Item	Cost	Number of Req.	Total Billable Amount $
OHE 0104	Internet Data Packages	$ 2,500.00	4	$ 10,000.00
OHE 0105	Mobile Data Packages (International and Local)	$ 2,500.00	4	$ 10,000.00
OHE 0107	TOTAL			$ 20,000.00

(b)(4); (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 6-Jul-15
Project OIE Uganda
Period of Performance: May 15 - Feb 29, 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
OIE Uganda	DBA Insurance	$ 9,301.97	1	9,302

(b)(4);(b)(6)

TRAVEL ESTIMATE COST

Contract Name: Academic Engagement Partnership Program
Contract Number: HDTRA1-14-C-0104
Date Prepared: 12-Aug-15
Proposal: OHE-Uganda
Period of Performance: May 15 - Feb 29, 2015

Traveler:	Foreign (b)(6) (b)(4)	
Departure Location:	IAD	
Destination:	Uganda	
Purpose:	OHE 1-week training - Location TBD, travel dates TBD	
Airfare	$	2,000.00
Service Fee/Airfare	$	13.00
Lodging/ 1 night @ Entebbe	$	-
Lodging / 7 nights @ TBD	$	134.00
Meals / Incidentals (2 travel days, 6 full days)	$	360.00
Ground Transport US	$	300.00
Ground Transport/Entebbe-TBD-Entebbe	$	900.00
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	250.00
Other (comm costs, Internet etc)	$	-
Visa	$	244.00
# of Days		8
Total Per Trip	**$**	**4,531.00**
No. of trips		1
No. of persons		2
SUBTOTAL:	**$**	**9,062.00**

Traveler:	Foreign (b)(4) (b)(6)	
Departure Location:	IAD	
Destination:	Uganda	
Purpose:	OHE 2-week training; Location TBD; Travel dates, TBD	
Airfare	$	2,000.00
Service Fee/Airfare	$	13.00
Lodging/ 1 night @ Entebbe	$	-
Lodging / 13 nights @ TBD	$	806.00
Meals / Incidentals (2 travel days, 12 full days)	$	648.00
Ground Transport US	$	300.00
Ground Transport Entebbe-TBD-Entebbe	$	900.00
Registration Fee	$	-
Insurances (DBA, SOS)		
Vaccinations/Malarone	$	200.00
Other (comm costs, Internet etc		
Visa	$	244.00
# of Days		14
Total Per Trip	**$**	**5,141.00**
No. of trips		1
No. of persons		2
SUBTOTAL:	**$**	**10,282.00**

Traveler:	Foreign (b)(6) (b)(4)	
Departure Location:	IAD	
Destination:	Uganda	
Purpose:	OHE 1-week training; Location TBD; travel day TBD	
Airfare	$	2,000.00
Service Fee/Airfare	$	13.00
Lodging 1 night @ Entebbe	$	-
Lodging / 7 nights @ TBD	$	134.00
Meals / Incidentals (2 travel days, 6 full days)	$	360.00
Ground Transport US	$	300.00
Ground Transport/Entebbe-TBD-Entebbe	$	900.00
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations Malarone	$	200.00
Other (comm costs, Internet etc)	$	-
Visa	$	244.00
# of Days		8
Total Per Trip	**$**	**4,481.00**
No. of trips		1
No. of persons		2
SUBTOTAL:	**$**	**8,962.00**

Traveler:	Foreign James Bangura
Departure Location:	Freetown, Sierra Leone
Destination:	Uganda

Traveler:	Foreign James Bangura
Departure Location:	Freetown, Sierra Leone
Destination:	Uganda

Purpose:	OHE 2-week training: Location TBD, travel days: TBD	
Airfare	$	6,500.00
Service Fee/Airfare	$	43.00
Lodging / 1 night @ Entebbe	$	144.00
Lodging / 13 nights @ TBD	$	806.00
Meals / Incidentals (2 travel days: 12 full days)	$	648.00
Ground Transport Freetown	$	350.00
Ground Transport Entebbe-TBD Entebbe (include 1 into DC MB	$	350.00
Registration Fee	$	-
Insurances (DBA, SOS		
Vaccinations Malarone	$	200.00
Other (comm costs, Internet etc)	$	-
Visa	$	50.00
# of Days		14
Total Per Trip	**$**	**9,091.00**
No. of trips		1
No. of persons		1
SUBTOTAL:	**$**	**9,091.00**

Purpose:	OHE 1-week training: Location TBD travel days:TBD	
Airfare	$	6,500.00
Service Fee/Airfare	$	43.00
Lodging/ 1 night @ Entebbe	$	144.00
Lodging / 7 nights @ TBD	$	434.00
Meals / Incidentals (2 travel days; 6 full days)	$	360.00
Ground Transport Freetown	$	350.00
Ground Transport, Entebbe-TBD Entebbe	$	350.00
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	200.00
Other (comm costs, Internet etc)	$	-
Visa	$	50.00
# of Days		8
Total Per Trip	**$**	**8,431.00**
No. of trips		**1**
No. of persons		1
SUBTOTAL:	**$**	**8,431.00**

TOTAL TRAVEL BUDGET:	**$45,828**

USG Foreign Per Diem Rates
(http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1239)

Location	Maximum Lodging	M&IE	Total
Wakiso/Hoima	62	48	110

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET	Full Time Employee Support by Activity	IC Support by Activity
(b)(4); (b)(6)	FT	Program Manager	Program Manager	90.5	$	(b)(4); (b)(6)		
	FT	SME III	Subject Matter Expert	16.0	$			
	FT-PT	Trainer I	Training Administrator	6.0	$			
	FT-PT	Research and Data Analyst	Project Coordinator	84.0	$			
	FT	SME I	Project Support	16.0	$			Total:
	FT	Program Manager	Program Manager	2.5	$			0
	FT	Program Manager	Program Manager	241.0	$			Total:
	PT	Research and Data Analyst	Project Coordinator	220.0	$			0
	FT	Trainer III	Technical Manager	11.5	$			
	FT-PT	Trainer I	Training Administrator	2.0	$			Total:
	FT	SME III	Subject Matter Expert	68.0	$			0
	FT	Trainer III	Technical Manager	80.0	$			
	FT	Trainer I	Training Administrator	320.0	$			
	FT	Trainer I	Field Epidemiologist	225.0	$			
	FT	SME III	Subject Matter Expert	240.0	$			
	IC	Research and Data Analyst	In Country Trainer Mod 1	120.0	$			
	IC	Research and Data Analyst	In Country Trainer Mod 1	120.0	$			
	IC	Research and Data Analyst	In Country Trainer Mod 1	120.0	$			
	IC	Research and Data Analyst	In Country Trainer Mod 1	120.0	$			
	IC	Research and Data Analyst	In Country Trainer Mod 2	120.0	$			
	IC	Research and Data Analyst	In Country Trainer Mod 2	120.0	$			
	IC	Research and Data Analyst	In Country Trainer Mod 2	120.0	$			Total:
	IC	Research and Data Analyst	In Country Trainer Mod 2	120.0	$			4
	FT	Program Manager	Program Manager	241.0	$			
	FT	Program Manager	Technical Manager	61.0	$			
	FT	Trainer III	Technical Manager	81.0	$			
	FT-PT	Trainer I	Training Administrator	312.0	$			
	FT-PT	Research and Data Analyst	Project Coordinator	304.0	$			
	FT	Trainer I	Field Epidemiologist	215.0	$			
	FT	SME III	Subject Matter Expert	303.0	$			
	IC	Research and Data Analyst	In Country Trainer	240.0	$			
	IC	Research and Data Analyst	In Country Trainer	240.0	$			
	IC	Research and Data Analyst	In Country Trainer	240.0	$			
	IC	Research and Data Analyst	In Country Trainer	240.0	$			
	FT	SME I	Project Support	16.0	$			Total:
	FT	Program Manager	Program Manager	2.5	$			4

Metabiota's Technical and Cost Proposal

"Biosafety and Biosecurity Training with South Africa's National Health Laboratory Services."

Technical Direction Number: TD-009
Contract Number: HDTRA1-14-C-0104
CAGE Code: 56SP4
DUNS number: 828131156

Small US Business
Metabiota, Inc.



One Sutter Street, Suite 600 San Francisco, CA 94104

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Phone (b)(4); (b)(6)
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Executive Summary

In response to Defense Threat Reduction Agency's Cooperative Biological Engagement Program (DTRA CBEP) regional leadership tasking via the Academic Engagement Partnership (AEP) contract vehicle, and through collaboration with the South Africa's National Health Laboratory Services' (NHLS), Metabiota, Inc. seeks to support the DTRA CBEP mission through the conduction of country-specific, high-value training programs to increase the effectiveness of NHLS biosafety and biosecurity (BS&S) activities. These proposed efforts will focus on delivering tailored support for increased BS&S awareness, equipment assurance of proper functionality, and ensured laboratory staff protection.

Through this activity, Metabiota will engage with NHLS in order to direct technical support in the development and implementation of BS&S initiatives. Established through legislation in 2001 to connect public health system laboratories, NHLS is the largest diagnostic pathology service in South Africa. Laboratory and related public health services are provided by the NHLS to over 80% of the population through a national network of laboratories in all nine provinces, employing over 6,700 people. NHLS activities comprise diagnostic laboratory services, research, teaching and training, and production of sera for snake antivenin, reagents, and media. Its specialized divisions include the National Institute for Communicable Diseases, National Institute for Occupational Health, National Cancer Registry and Antivenin Unit.

This document outlines the approach that Metabiota will employ to accomplish the requirement. In short, Metabiota intends to:

1. Facilitate the completion and dissemination of a standardized BS&S training video materials for laboratory personnel throughout the NHLS network laboratories;
2. Expand the in-country Overseas Humanitarian Assistance Shared Information System (OHASIS) capabilities by supporting the development of a new module for increased quality assurance and quality control procedures for monitoring laboratory equipment certifications and maintenance; and
3. Facilitate the development of a Fit Testing respiratory protection-training program to be disseminated via Safety, Health, and Education (SHE) Officers.

Project Overview

Background

Emerging infectious diseases (EIDs) are a challenge for medical and public health infrastructures and pose a significant threat to security and stability across the globe. To manage these threats, DTRA CBEP aims to reduce potential impacts of biological threats by enhancing biological safety and security, awareness of biological risks, and knowledge related to biological pathogens globally.

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To do so, DTRA CBEP works collaboratively with partner nations, other USG agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health; promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner. In AFRICOM, specifically, DTRA CBEP seeks to secure and consolidate select agents and enhancing BS&S standards in order to strengthen the region's ability to detect, diagnose, survey, and report emerging and re-emerging diseases of international security concern.

In response to DTRA CBEP AFRICOM regional leadership tasking, and through collaboration with the NHLS, Metabiota seeks to support the DTRA CBEP mission through the conduction of country-specific, high-value training programs to increase the effectiveness of NHLS' BS&S activities. These proposed efforts will focus on delivering tailored support for increased BS&S awareness, equipment assurance of proper functionality, and ensured laboratory staff protection.

As comprehensive employee BS&S training programs can mitigate potential EID risks by aiming to prevent exposures to healthcare workers and laboratory personnel, this collaborative training will support the DTRA CBEP mission of improving global health security with the inclusion specialized capacity-building efforts.

Metabiota's field experience and decades of expertise allows us to be well positioned to support the implementation of all of the associated activities, as well as scientific engagement in AFRICOM's area of responsibility.

Goals and Objectives

This activity aims to provide NHLS with continuous quality assurance oversight and to mitigate potential risks to healthcare workers and laboratory personnel exposed to EIDs by conducting training to improve biological safety in NHLS's laboratory network thereby managing the risk of accidental or intentional release of EID causative agents. The delivery of these requirements will cultivate continued learning throughout the NHLS network of laboratories and further expand in-country monitoring and quality improvement activities.

To achieve this purpose, Metabiota and their collaborative partners will:

1. Complete and distribute a standardized BS&S video training courses;
2. Expand in-country OHASIS capabilities by developing new IT modules allowing for comprehensive equipment maintenance requirement monitoring;
3. Develop and conduct a training-of-trainer (TOT) program for the conduction of Fit Testing Respiratory Protection Training Program to be disseminated via SHE Officers.

To accomplish these goals DTRA CBEP will engage Metabiota to administer the BS&S Training in South Africa in collaboration with NHLS.

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Impact

Through the implementation of the BS&S training in South Africa facilitated by Metabiota, DTRA CBEP will be able to:

- Develop and enhance EID BS&S systems and build regional capabilities;
- Ensure safe EID collection and handling practices supporting the implementation of international standards of BS&S;
- Provide quality assurance oversight to regional public healthcare system personnel;
- Support public health capacity building in the region and foster scientific research and collaboration through the development and implementation of basic research activities.

This activity will provide a measurable and achievable result in building scientific capacity in South Africa, contributing to the promotion of a global network of research collaborations, and the development of a sustainable infrastructure for advancing scientific research, including the early detection of emergent threats.

Training engagements are critical to capacity building efforts in host countries and supporting the early detection and response to emerging threats, thus safeguarding the world from infectious disease threats.

Risk Management

In order to maintain our course of action and guarantee trainings that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix found below. Identifying and acknowledging the risks associated with not implementing this training, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Cost						
In Country Travel Arrangements	Significant in-country travel is required for these projects, and our estimates may be under the true number.	4	4	**Medium-High**	Consult often with NHLS and have them cost estimate with actual travel costs before arrangements have been booked.	Medium
Schedule						
Material Procurement	Various items will be purchased in the USA and shipped to NHLS in South Africa while some items will be purchased locally. There may be some confusion and delays over which items to ship and which to purchase locally in RSA.	4	3	Medium	Engage a local logistics organization to provide in-country support with rapid turn-around and solid track record in supporting USG operations. Consult with NHLS in enough time to establish USA versus SRA purchases to allow for enough time to procure items to keep the projects on schedule.	(b)(4); (b)(6)

Receiving Deliverables on Schedule from NHLS	NHLS is a large organization with a highly centralized authority structure that serves as a bottleneck for decision-making, thus the timely preparation and delivery of deliverables may be affected.	4	4	(b)(4); (b)(6)	Maintain frequent communication and consultations with NHLS to ascertain partner progress in meeting completion of the deliverables and work to de-escalate decision-making needs.	Med
Performance						
Writing of SOPs for Fit Testing to coincide with delivery of Portacounters into RSA.	NHLS may not have developed SOPs for its Fit Testing Objective by the time Portacounters arrive in RSA from the USA.	4	3	**Med-High**	Coordinate NHLS development of Fit Testing SOPs with timeline of purchasing Portacounters and shipping them to RSA. Provide assistance to development of Fit Testing SOPs as needed.	(b)(4); (b)(6)

Implementation Plan

Introduction

Metabiota will employ its existing organizational leadership to interface, as needed, with the Regional Science Manager and Regional Program Manager to direct the operational and administrative support required ensuring implementation of the BS&S training. Our Program Manager will oversee the training programs with the support of a subject matter expert, travel coordinator, grants manager, trainers, and research and data analysts, to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Communications Protocols

To accomplish event implementation, Metabiota will maintain open lines of communication and will use a phased approach of engagement, maintaining project tracking and scheduled deliverables. This phased approach will be coordinated directly with the NHLS Program Manager, Trainer, Research and Data Analyst, and SME collaborators to ensure the event is implemented according to DTRA CBEP requirements, in the assigned timeframes, and supportive of the DTRA CBEP mission. In addition, Metabiota will maintain routine communication with DTRA CBEP to ensure they have full visibility on the training engagement and development activities, status and process of execution.

Technical Approach

Phases of Technical Approach

Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project phases and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. The following phases are required for this project:

Phase 1: Biosafety & Biosecurity Training Video Distribution
Phase 2: Monitoring of Equipment Maintenance Enhancement (OHASIS)
Phase 3: Respirator Fit Testing of Employees

Phase 1 – Biosafety & Biosecurity Training Video Distribution (1 July – 31 December)

Objective: Complete the development a professionally produced video and related materials or a ToT program to standardize and introduce laboratory safety-related information.

Process: Metabiota, in coordination with DTRA CBEP and NHLS, is completing a professionally produced video and related materials (*e.g.*, standard operating procedures (SOPs)) for a ToT program to standardize and introduce laboratory safety-related information. In continued support of this effort, Metabiota and NHLS will procure the necessary equipment and consumable required for distributing these training videos to laboratory personnel, visitors, security personnel, and contract maintenance workers.

Under the direction of NHLS SHE Officers, laboratory personnel will be trained to oversee delivery of introductory video trainings and associated SOPs to personnel within their home-based facility. There are no labor or travel costs associated with dissemination of training materials. The only costs associated with the completion of this objective are associated with procurement of equipment and consumables required for distributing the completed videos. Training videos will be rolled out via Apple Air tablet computers to academic institutions and regional centers, whereas DVDs will be provided to more rural facilities within the network. Metabiota had not previously budgeted for procurement of these materials, as it was assumed that CLS would manage this activity. Moving forward, Metabiota will procure all tablets and DVD's for this objective and leverage the CLS Single Shipper mechanism to ensure materials are shipped to the Republic of South Africa in compliance with all export/import regulations.

Deliverables:

- Deliverable 1: Submission of training materials and post-action report for the conduction of laboratory personnel training to oversee the distribution and delivery of BS&S video trainings and associated SOPs to personnel.

Phase 2 – Monitoring of Equipment Maintenance Enhancement (OHASIS) (1 Oct 2015 – 30 April 2016)

Objective: Ensure all BS&S associated equipment is properly calibrated, functioning, and maintained.

Process: To manage potential risks due to human error and paper-based record keeping as well as provide increased oversight, Metabiota will develop a module for the enhancement of OHASIS, an online health monitoring system that is currently used by all facilities within the

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NHLS network to record and investigate incidents, record employee health, note vaccinations given, and document trainings completed. Metabiota will additionally coordinate with the NHLS to develop and distribute an online e-learning training and manual for the SHE Officers.

The enhancement module is intended to allow for laboratories to monitor the maintenance requirements of equipment so as to ensure proper functionality through the existing OHASIS program, thereby improving BS&S. Additionally, this module will provide reports on laboratory equipment including, biological safety cabinets, autoclaves, centrifuges, fume hoods, and other local exhaust ventilation systems.

The enhancement module will be piloted in three laboratories over the course of four to five weeks. Metabiota will communicate, troubleshoot, and share developments with the Canadian developers, in line with current agreements.

Deliverables:

- Deliverable 1: Rollout of enhanced equipment maintenance module for OHASIS
- Deliverable 2: Development and conduction online e-learning training and a training manual for SHE Officers

Phase 3 – Respirator Fit Testing of Employees (1 July 2015 – 30 April 2016)

Objective: Develop and initiate a Master Trainer ToT Fit Testing Program to ensure proper fit of PPE and optimize biosafety for all laboratory personnel. This program will include initial scale up and Master-level training of NHLS staff. As a result, the NHLS will have personnel capable of conducting internal ToT events, which will allow for them to reach the estimated 3,000 laboratory staff in need of Fit Testing.

Process: To manage risks associated with aerosol exposures in the laboratory setting, Metabiota will develop a Master Trainer ToT Fit Testing Program with the NHLS. This training will use specialized Fit Test equipment to identify the appropriate respirator for a given person. To enable the NHLS to reach the estimated 268 locations and 3,000 staff in need of Fit Testing, many of whom are in rural areas, Metabiota will develop Fit Test SOPs, map initial scale up plan, develop Trainer and Master Trainer selection criteria, and conduct initial Fit Test trainings for a select starting cohort of NHLS staff.

Deliverables:

- Deliverable 1: Submission of training scale-up plan, training materials, and post-action reports for the conduction of the Master Trainer ToT Fit Testing Program
- Deliverable 2: Submission of Trainer and Master Trainer cohort list, training timeline for scale-up completion for fit testing all 3,000 NHLS employees, and post-action reports.

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Management Approach

Project Team Structure

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the Program Manager, Research and Data Analyst, Travel Coordinator and a team of Research Collaborators and Subject Matter Experts that will be tasked with specific assignments to support the development and implementation of the training based on their administrative and scientific expertise. This team of experts will ensure the overall project management and tasks associated with the training are met at every level using best practices and that only the highest level of scientific rigor and expertise is applied to this effort.

Initiation

Prior to initiating any action, Metabiota and DTRA CBEP will secure a clear understanding of the objectives and mission of this undertaking, and make sure all stakeholders agree to it. Following authorization to proceed by DTRA CBEP, Metabiota will move into the planning and execution of the trainings and IT enhancement activities.

Execution

The core project management team will maintain oversight and implementation of the project at all times and will ensure timely execution of the training events and tracking objectives to ensure the project remains on schedule and within budget. The project will be managed according to the phased implementation plan and will be course-corrected as needed to ensure project goals are met. The following tools will be used to guarantee the project schedule will be maintained:

Project Administration:

1. Weekly team meetings and conference calls will be held to internally review the project achievements, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Coordinator and will include the PM, Research and Data Analysts, SMEs and AEP leadership, as needed, based on the requirements and stage of implementation.
2. Metabiota will conduct routine communication with DTRA CBEP regional leadership and in-country collaborators to provide routine status updates and ensure project implementation.

Project Reporting:

1. Weekly status reports will be provided by the PM to senior Metabiota leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course-correction as needed to ensure training goals are met.

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Monitoring and Controlling

1. Routine risk assessment will be performed internally among the Metabiota project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with DTRA CBEP regional leadership to ensure the project remains on track and is implemented according to standard.
3. Routine oversight and coordination will be performed to ensure NHLS is performing in-country logistical requirements to ensure successful execution of the project phases. Monitoring will include both administrative and fiscal oversight.

Timeline

Phase	Q3 2015			Q4 2015			Q1 2016			Q2 2016		
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Phase 1: BS&S Training Video Distribution												
Phase 2: Monitoring of Equipment Maintenance Enhancement (OHASIS)												
Phase 3: Respirator Fit Testing of Employees												

Completion

Metabiota will drive the project to completion in a timely manner by maintaining a focused project schedule with routine meetings and communication with DTRA CBEP regional leadership. This will allow for continued coordination, while maintaining targeted objectives. As the activity progresses, Metabiota will provide all required deliverables and after action reports to allow for lessons learned and continuation of solid execution and implementation of activities. Metabiota believes that the experience and management it will bring to this project, in collaboration with DTRA CBEP will guarantee success.

Cost Management

The Metabiota team and all partners will maintain an acute focus on cost management to ensure that the training is delivered at a reasonable cost to the government. Our team will provide full oversight of NHLS to ensure accurate and responsive financial reporting and will facilitate cost savings to the Government wherever possible. Metabiota will follow procurement regulations ensuring the best price is received under the time constraints using all means available.

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Budget Narrative

Period of Performance
The Period of Performance for this effort is 16 May 2015 – 15 May 2016.

Labor
Costs for direct labor to support this activity is required for the following personnel:

- Metabiota Program Manager [(b)(6)] will oversee the execution of program objectives towards the completion of DTRA CBEP goals at the regional level, and will lead communication with DTRA CBEP for this activity. [(b)(6)] will do so by maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. [(b)(6)] will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables erstwhile ensuring the program remains within scope, budget, and timeline.
- Metabiota Trainer I: [(b)(6)] ll ensure the execution of project objectives towards the completion of DTRA CBEP goals at the project leve [(b)(6)] [(b)(6)] will do so by managing stakeholder and subcontractor coordination and project execution, with a focus on project milestone achievement and stakeholder buy-in development and maintenance. [(b)(6)] will regularly communicate project status with [(b)(6)], and will assist him in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. [(b)(6)] will also assist [(b)(6)] n ensuring all project requirements and deliverables are fulfilled while concurrently ensuring the project remains within scope, budget, and timeline.
- NHLS Grants Manager [(b)(6)] ill act as the Project Manager for each of the three proposed requirements, overseeing the design and implementation of all project activities. [(b)(6)] currently the National Manager for the Safety Health and Environment Program for the National Health Laboratory Service. [(b)(6)] has over 33 years experience in working in environmental health law enforcement including audits and evaluations, noise control, pollution control, waste management, public relations, occupational health and safety policy formulation, audit tool development and health project development and management.
- NHLS Subject Matter Expert I [(b)(6)] formation Manager, also supports work for the National Institute for Occupational Health (NIOH), a division of NHLS will be providing thirteen (13) years of experience in OHS research, data management, data cleaning, data extraction, information management and information technology management. [(b)(6)] s experienced in electronic records management, development of patient information systems, electronic patient records, occupational health information systems. In addition, [(b)(6)] has expertise in software development life cycle, user interface and user experience development and is the lead developer and project manager for the OHASIS information system project. Alongside

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(b)(6) will provide guidance and support on the IT infrastructure configuration and management for the OHASIS module development.

- NHLS Trainer I: (b)(6) is the National Deputy Manager for the Safety Health and Environment program for NHLS, where she manages and coordinates the functions and duties of five (5) qualified SHE Officers, develops and implements a Health & Safety (H & S) program for the NHLS according to international best practice and in compliance with the Occupational Health and Safety (OHS) Act and the relevant regulations, advises line management and staff on the application of relevant OHS policies and procedures to ensure compliance to legislation. Additionally, (b)(6) collates data from all OHS Audits conducted in the NHLS, generate reports and communicate results to Laboratory, Business and Executive managers. (b)(6) will provide leadership and support for the development and implementation of the BS&S video project, as well as the Fit testing training efforts.
- NHLS Research and Data Analysts (3 personnel):
  - (b)(6) is a registered Occupational Hygienist with the Southern Institute for Occupational Hygiene (ROH-SAIOH), currently working for the National Institute for Occupational Health (NIOH), a division of NHLS. (b)(6) is responsible for conducting risk assessments and occupational hygiene surveys including illumination, noise, ventilation, hazardous chemical substances, ergonomics, environmental pollution (land, water and air) and waste management in a wide range of industries. Presently (b)(6) is involved in teaching and research in respirator fit testing, facial anthropometry and designing effective respirator protection programs. (b)(6) will act in this capacity in support for the Fit Testing project, under the leadership of (b)(6) and (b)(6)
  - (b)(6) is the Finance and Administration Manager for NHLS and has been with the organization for 15 years. He holds a national diploma in Cost Accounting and has worked as a Financial Manager for two business units within NHLS (Northern and Central) as well as two institutes within NHLS (NICD and NIOH).
  - (b)(6) has worked with NHLS as Senior Bookkeeper for 11 years and has a total of 22 years experience working within corporate financial environments. He holds a degree in Business Communications and the major aspects of his duties include project coordination, budgeting and management accounting, event planning and co-ordination. Both (b)(6) will be assisting (b)(6) in project coordination, integration of new efforts with existing records (including the integration of the OHASIS module) and the scheduling and planning of training events.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

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Materials

Materials and supplies are required to support training efforts, project activities, information dissemination, fit testing requirements, and general administrative costs. Materials will include:

- Tablet Computers, BS&S ToT program, the SHE officers will require twenty-five (25) tablet computers (Apple iPad Air) for dissemination to the identified NHLS locations. Spread throughout South Africa are nine (9) academic sites that will receive tablets (one per site), which serve as referral centres and have more than one laboratory on site. In addition, there are four (4) Regional Offices that require a total of eight (8) tablets; two (2) tablets per Regional Office, as these offices all have Administration facilities as well as laboratories. The three (3) institutes are situated on two different sites where two of the institutes share a common reception area, thus a provision is made for two (2) per site for a total of four (4) tablets. The Corporate head office has the largest number of visitors and also does a lot of training, therefore the allocation of four (4) tablets is proposed. Training on the use of the tablets, as well as the process through which to offer and administer video training will be provided at the identified facilities by experienced SHE Officers on a one on one basis with the people identified by the facility manager as being responsible for administering the video training material. It is intended that the academic centres be issued the tablet computers.
- Training video DVDs, any facilities that will not receive tablets, videos will be placed on DVD and delivered to the identified laboratories and centres by internal mail at the expense of the NHLS by the SHE Department. Any instruction on the use of the DVDs would be by means of SOPs.
- PortaCount Fit Tester, Fit testing requirement. NHLS will require the following supplies: five (5) PortaCount Pro+ Respirator Fit Tester with a 3 year calibration plan (PortaCount Pro+ which includes AC adapter with Universal Plug Set, 8026 Particle Generator, alcohol cartridge, alcohol fill capsule, storage cap, two zero check filters, Model 8016 alcohol supplies, 3/16 and 1/4 inch hose adapters, two spare alcohol wicks, 100 sampling probes, insertional probe, neck strap, carrying case, FitPro Test software CD, Flash memory drive (1GB), USB cable, operation and service manual and two-year warranty); seven (7) Fit Test Probe Kits (1kit includes 500 probes, 500 Pushnuts); six-thousand (6000) 3M or Kimberly Clark N95 respirators; six-thousand (6,000) respirator adaptors; and five (5) boxes of isopropyl alcohol (16x30ml bottles).

Metabiota will make every effort to procure required materials based on best value (cost, quality, and longevity). Metabiota anticipates that CLS will manage shipping, and all related costs (e.g., export compliance), of items procured CONUS to the Republic of South Africa. Metabiota will coordinate with CLS contractors through DTRA CBEP to ensure this process is executed in an effective and efficient manner.

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Other Direct Costs
Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for NHLS personnel for the period of performance for this engagement. Metabiota personnel performing on this project are already insured.

Subcontracts
A Subcontract will be issued to NHLS to support their labor requirements on this engagement, as well as materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support NHLS project personnel to facilitate implementation and conduct training activities in this effort. The proposed projects require domestic (South Africa) travel for test site introduction of the OHASIS pilot modules, and for the Fit testing training. The travel estimates in the budget reflect averaged costs for airfare, lodging, and meals to multiple different locations in South Africa for travel by NHLS project personnel. Metabiota does not anticipate any international travel of its USA staff to South Africa.

Conclusion
Metabiota is committed to supporting our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP AFRICOM in the implementation of the Biosafety and Biosecurity Training with the National Health Laboratory Services in South Africa. Metabiota will ensure, through strong project management and risk mitigation that the training will be executed in an efficient and timely manner delivering a top quality course geared to support enhanced biosurveillance and biosafety efforts in the region.

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Appendix A- Team Metabiota Overview

Metabiota, Inc. is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science, including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in 20 countries and offices in San Francisco, Washington, China, Canada, and Sierra Leone.

Metabiota currently supports a number of the Defense Threat Reduction Agency Cooperative Biological Engagement Program (DTRA CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. In these roles Metabiota provides support to U.S. Government (USG) Partners in reducing the risk of biological threats worldwide through a collaborative and agile approach to biological risk management.

In coordination with DTRA CBEP regional leadership and in-country partners, Metabiota has built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGO) whose respective aims could impact DTRA CBEP objectives.

Through this activity, Metabiota will engage South Africa's National Health Laboratory Services (NHLS) in order to direct technical support in the development and implementation of the biosafety and biosecurity (BS&S) initiatives. Established through legislation in 2001 to connect public health system laboratories, NHLS is the largest diagnostic pathology service in South Africa. Laboratory and related public health services are provided by the NHLS to over 80% of the population through a national network of laboratories in all nine provinces, employing over 6,700 people. NHLS activities comprise diagnostic laboratory services, research, teaching and training, and production of sera for snake antivenin, reagents, and media. Its specialized divisions include the National Institute for Communicable Diseases, National Institute for Occupational Health, National Cancer Registry and Antivenin Unit.

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Metabiota's Technical and Cost Proposal

"DTRA/CBEP Study of the Risk of Bat-borne Virus Transmission from the Annual Bat Cull in Nagaland, India."

Technical Direction Number: TD-003
Contract Number: HDTRA1-14-C-0104
CAGE Code: 56SP4
DUNS number: 828131156

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Team Metabiota Overview

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Metabiota currently supports a number of Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. Metabiota's mission aligns well with CBEP and the entire Metabiota team is focused on supporting our U.S. Government (USG) Partners in reducing the risk of biological threats worldwide, and employs a collaborative and agile approach to biological risk reduction.

Metabiota has built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGOs) whose respective aims could impact CBEP objectives.

Project Overview

Introduction

Through AEP Technical Direction 003, DTRA CBEP Regional leadership tasked Metabiota with administering a study on the risk of bat-borne virus transmission during an annual bat cull in Nagaland, India in support of biosurveillance activities across the Pacific Region. The study will take place over a 12-month period and will involve researchers and Subject Matter Experts (SMEs) from Metabiota, as well as key partners from Duke NUS and the National Center for Biological Sciences (NCBS) India to examine the virus community of three species of bats in a cave in Nagaland, India and determine the extent of risk of human infection.

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Background

Bats are the only flying mammal (of the order Chiroptera), and are one of the most abundant, diverse vertebrates dispersed across all continents except Antarctica. They consist of more than 1100 species across 17 families (Nowak, 1994). Bats face the same threats as other mammals: habitat loss and hunting pressure. Bats host many noteworthy viral pathogens including filoviruses, coronaviruses, and paramyxoviruses, and are implicated as the sources of transferring these viruses to both humans and livestock. Understanding the ecology of reservoir-borne viruses is critical to the prevention of zoonotic epidemics and the global community's ability to implement preventative measures through biosurveillance, detection and response initiatives that mitigate the threat of these viruses causing disease outbreaks on a pandemic scale.

Although India is an exceptionally biodiverse country, relatively little is currently known about bat-borne viruses in the country, and this is especially true within the state of Nagaland, where communities live within close proximity to bats and utilize them as a natural food source. However, the abundance of data from bats in Bangladesh indicates that India is likely home to numerous reservoirs, including those for medically important viruses. Studies have shown that close proximity to bats can lead to cross-species transmission to humans, as was recently witnessed during the Ebola outbreak in West Africa - the index case is suspected to be a young child exposed to bat excreta.

This particular site in India is of critical interest in identifying disease threats within the region, as there is an annual bat harvest where numerous individuals from surrounding villages come together to visit the colony and perform an annual cull, harvesting the bats for food. The cull takes place every October; the bats are smoked out of the cave, caught, slaughtered and preserved or eaten. The close proximity of hunters and food preparation workers to bats provides ample opportunities for exposure to pathogens through respiratory, mucosal or percutaneous routes of infection. Following the bat harvesting participating individuals return to their home villages, providing an ideal dispersal mechanism to aid spread of the disease within the community. It is presumed that bats in this particular region are most likely a reservoir for Nipah virus, based on the virus endemicity in Bangladesh. In addition, one of the three species of bats caught during a previous harvest (*Rousettus leschnaulti*) has been found seropositive to Ebola virus in Bangladesh, indicating the presence of circulating filoviruses. This study will therefore provide greater understanding of the viruses circulating among this bat population and the potential risk to humans, based on understanding behavioral practices that lead to transmission.

The Indian state of Nagaland falls under the Indo-Malayan Region, and is part of a global biodiversity 'hotspot'. Bat diversity in this region is very high (Figure 1). Conversely, the region faces intense hunting pressure as well as habitat degradation and loss. Every year, thousands of cave-dwelling bats and other fruit bats are hunted for consumption during mid-October in villages near Mt. Saramati, at the Indo-Myanmar border (Figure 2, Figure 3). This may have led to a considerable population decline and local extinction over recent years. Such

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hunting also leads to high intensity contact events between humans and wildlife, perfect conditions for spread of infectious disease.



Figure 1: Bat species richness in Asia



Figure 2: Map with field site in red

Understanding the ecology of reservoir-borne viruses is critical in the prevention of zoonotic epidemics and the global community's ability to implement preventative measures through biosurveillance, detection and response initiatives that mitigate the threat of these viruses causing disease outbreaks on a pandemic scale. This study aims to determine the virus community of three species of bats in a cave in Nagaland, India and determine if there is a risk of human infection. SinCounce very little is known about bat-borne viruses in India and this particular region, this a critical research effort in support of the CBEP mission.

Understanding

The Metabiota team understands that the U.S. Department of Defense (DoD) initiated CBEP through DTRA in order to: secure and consolidate select agents; enhance Biosafety and Biosecurity (BS&S) standards; and strengthen the USPACOM region's ability to detect, diagnose, survey, and report emerging and re-emerging diseases of international security concern and that CBEP accomplishes these objectives in accordance with the World Health Organization (WHO) International Health Regulations (IHR) and World Organization for Animal Health (OIE). The team further recognizes that to achieve its mission, CBEP works collaboratively with partner nations, USG agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health; promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner. Through the AEP Program, and implementation of this project. Metabiota aims to support the CBEP mission of reducing the potential impact of biological threats through enhanced biological surveillance, awareness of biological risks, and knowledge related to biological pathogens.

In support of achieving the CBEP mission, Metabiota intends to administer a high-value study that will support strategic CBEP objectives by increasing regional collaboration on topics critical to biological threat reduction, and enhancing the regional capacity to perform

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biosurveillance activities that reduce the threat of infectious disease events. The team's on-the-ground experience and expertise make us well positioned to support the implementation of this study in the USPACOM's area of responsibility.

Purpose

The purpose of this study is to examine the risks of bat-borne transmission from bat consumption in Nagaland, India. The study will involve screening bats before, during and after the bat harvest to screen for coronaviruses, filoviruses, and paramyxoviruses and analyze the sequence data to understand circulating genotypes and the potential for cross-species transmission thereby building host country capacity to detect, prevent and respond to infectious disease threats, as well as building biosurveillance networks and scientific collaborations across the region, further mitigating infectious disease threats and the potential for outbreaks.

To achieve this purpose, CBEP has identified the need for a 12-month study to determine the virus community of three species of bats in a cave in Nagaland, India, and if there is a risk of human infection due to the animal-human interface existing in this region and facilitated by the annual cull. Identifying the virus community in this colony of bats is critical to understanding the risk posed in this practice, and the preventive measures that can be implemented to support the reduction of risk and infectious disease threats circulating in this region.

This research will promote global health security and threat reduction by supporting fundamental research to decrease the threat of infectious diseases at the animal-human interface, as well as enhancing regional capability for pathogen research and surveillance. The study provides opportunities for research cooperation between U.S. and host country scientists, contributing to a greater understanding of pathogen infection in humans and infectious disease surveillance. This will serve to enhance the host nation's capacity in disease surveillance and response, while adhering to international codes of security and safety to ultimately provide a mechanism for sustained engagement through ongoing surveillance and research activities.

To accomplish this purpose, DTRA CBEP, through AEP has engaged the Metabiota team and its cadre of Subject Matter Experts (SMEs) to administer the study in Nagaland, India in conjunction with Duke NUS and NCBS.

Objectives

Through the implementation of the study on bat-borne virus transmission, facilitated by Metabiota, DTRA CBEP will be able to:

- Determine the virus community in the three species of bats, specifically paramyxoviruses, filoviruses, and coronaviruses and the threat posed by these viruses;
- Examine if detectable virus prevalence increases after an anthropogenic stress event;
- Improve molecular virus diagnostics and epidemiology study systems;
- Support long-term surveillance in both wildlife and humans surrounding the use of bushmeat in India;

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- Support the development of disease reporting, surveillance and response systems regionally, thereby reducing global threat;
- Support regional scientists through capacity building efforts and scientific collaboration.

Threat Reduction Outcomes

The study will provide a measurable and achievable result in building scientific capacity in the region while promoting a global network of biosurveillance, detection and response, including the early detection of emergent threats.

Advancing research knowledge through the completion of relevant scientific studies is critical to capacity building efforts in host countries and supporting the early detection and response to emerging threats, thus safeguarding the world from infectious disease threats. Without completion of this study, the region is subject to the following identified risks:

- Reduced regional biosurveillance capability and characterization of novel infectious disease outbreaks;
- Increased security threats due to practices potentially leading to disease transmission;
- Increased security threats due to improper handling, storage, and transport of pathogens of security concern;
- Decreased communication and scientific engagement among host-country scientists and the global scientific community, which can provide reachback support and capacity building to strengthen the host country's ability to detect and respond to disease threats;
- Reduced risk management capacity.

The completion of the training will mitigate the identified risk factors by:

- Improving and enhancing disease detection, reporting and response systems across the region;
- Implementing and improving biorisk management best practices and principles based on internationally acceptable guidelines and standards (enhancing the capacity to account for, safeguard, and secure pathogens of concern);
- Increasing biosafety measures in regional biosurveillance activities;
- Increasing scientific capabilities through research collaboration and fostering an environment of scientific partnership;
- Enhancing research infrastructure including BSL safety levels and best practices.

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Risk Management

Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Logistical						
Costs to Exceed NTE	Realistic costs for implementing the study currently exceed NTE price.	4	4	**Med-High**	Metabiota will work to mitigate costs by choosing low-cost travel and procurement options.	Med
Materials Unavailable In Country	Materials and supplies that cannot be procured in country must be bought abroad and shipped through CLS, incurring extra cost, requiring extra lead time, and presenting further logistical challenges.	3	4	**Med-High**	Metabiota will work to purchase all materials/supplies possible in country, and will procure the rest from cost-effective sources to be shipped through CLS, or will have CLS procure and ship items according to approval.	(b)(4); (b)(6)
Team Coordination	Coordinating multiple teams from the US, Singapore, and India presents logistical and cost challenges.	3	3	**Med-High**	Metabiota will work with in-country and international partners to handle logistical challenges as they arise.	
Extension of PoP	Research analysis timeframe has been reduced from the projected 9 months to 6 months to account for contract PoP.	3	3	**Med-High**	Metabiota will work with collaborators to ensure deliverables are met in the allowable PoP and will coordinate with SMEs to maximize results on the project.	
Travel						
Program Startup Travel	India is a new area of operation, so travel to the region will be critical for oversight in the new program.	3	3	**Med-High**	Metabiota will work with in-country partners to secure the best rates for travel and logistics.	Med
Short Suspense Travel	Travel will need to begin in a relatively short period of time and several trips will be necessary to ensure study implementation, so this increases cost.	3	3	**Med-High**	Metabiota will start the travel logistics as soon as possible and will seek out the lowest feasible travel costs.	(b)(4); (b)(6)

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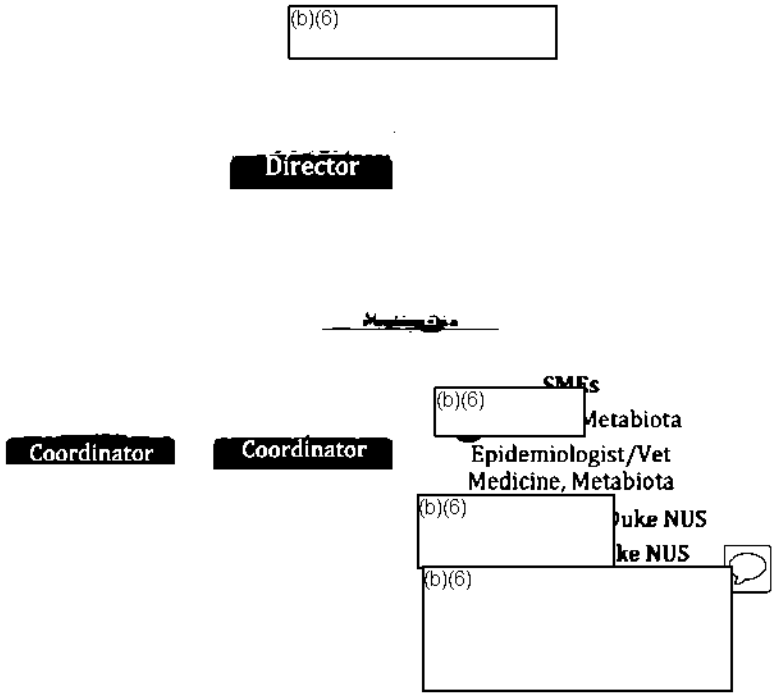
Management Approach

Introduction

Metabiota will employ its existing organizational leadership to interface with the Regional Science Manager and Country Manager as needed to direct the operational and administrative support required, ensuring implementation of the bat-borne virus transmission study. Our Program Manager (b)(6) will oversee study implementation with the support of a project coordinator, travel coordinator, and subject matter experts to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Project Team Structure

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the Program Manager, project coordinator, travel coordinator and a team of SMEs that will be tasked with specific assignments to support the development and implementation of the study based on their administrative and scientific expertise. This team of experts will ensure the overall project management and tasks associated with the workshop are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.



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Initiation

Following guidance from CBEP USPACOM leadership, and working collaboratively with SMEs from Duke NUS as well as local collaborators from NCBS, Metabiota will initiate a project kickoff meeting held at Duke NUS in Singapore with all key collaborators. The kickoff meeting will involve discussions surrounding the objectives, ethical clearance, timeline, deliverables, staff coordination, sample storage, cold chain issues, sample screening, and data analysis required to implement this study. Duke NUS researchers will demonstrate their team's standard operating procedures and will provide initial training for NCBS collaborators on sample collection, to include collection of bat excreta, trapping and sampling of bats, and bat necropsy. This kickoff meeting and the associated short training will ensure that study protocols are understood and can be implemented along with project review and logistical management of conducting the sampling and analysis throughout the remainder of the project. Prior to initiating any action, Metabiota's team and CBEP will secure a clear understanding of the objectives and mission of this undertaking, and ensure sure buy-in from all stakeholders. Following initiation of the study, to include implementation of all contractual requirements, Metabiota will move into the planning and execution phases of the study.

Planning and design

Completion of this task requires a 12-month study involving three sampling events over a three-month period followed by nine months of sample analysis and deep sequencing conducted by NCBS and Duke NUS. The three sampling events will occur between the months of September and November to establish the following. 1) a baseline prior to the cull. 2) during the annual cull, 3) following the cull to determine if there is increased circulation of viruses brought on by the stress of the cull. NCBS researchers have previously visited the identified cave in Nagaland. India, and have developed relationships with community members, giving them direct access to the research site. This relationship will greatly facilitate the trapping and sampling of bats, as building trust with the local community is one of the key components to successfully implementing research activities. The study-specific training provided to NCBS researchers by Duke-NUS SMEs at the kickoff meeting in Singapore will facilitate the successful execution of the sampling events to include implementation of safe and secure sample collection, sample transport, and sample storage to ensure the highest likelihood of detecting viral RNA. Following sample collection over the intended sampling period, samples will be processed at NCBS.

To accomplish the research goals of the study and due to the duration required to complete all activities, Metabiota intends to hold the kickoff meeting in August, following engagement of Duke NUS and NCBS to implement the research and secure study approval. This will ensure strong coordination, oversight and implementation of the study in a collaborative framework. Following the kickoff meeting, Metabiota and Duke NUS project personnel will travel to India in support of the initial sampling event and engage with host country partners at NCBS, ensuring strong regional ties and securing the project management efforts and logistical coordination required on the ground. For procurement and shipping of materials that cannot be purchased in country, Metabiota will utilize the services of CLS for logistical needs.

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Execution

The core project management team will maintain oversight and implementation of the study at all times and will ensure successful execution of the research, tracking implementation to ensure the study stays on schedule to meet the deliverable requirements within the study timeframe. The study will be managed according to the steps required to implement the research and will be course corrected as needed to ensure target end goals are reached. The following tools will be used to guarantee that the project schedule will be maintained:

Project Administration:

1. Weekly team meetings and conference calls will be held to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Team and will include the PM, Project Coordinator, SMEs and AEP leadership as needed based on the requirements and stage of implementation.
2. Routine calls and communication via email will be held with CBEP regional leadership, in-country collaborators, external SMEs, and Metabiota to provide routine status updates and ensure study implementation.

Project Reporting:

1. Weekly status reports will be provided by the PM to senior MB leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction as needed, to ensure that project goals are met.

Monitoring and Controlling

1. Routine risk assessment will be performed internally among the MB project management team to guarantee that the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with CBEP regional leadership to ensure that the project remains on track and is implemented according to existing standards.
3. Routine communication, to include monthly Skype meetings with the project teams and monthly reporting requirements implemented with teams in Singapore and India, will be maintained to ensure that the study is progressing and to troubleshoot any challenges faced in the field. Metabiota will maintain oversight and coordination of the study to ensure Duke NUS and NCBS are maintaining technical, administrative and fiscal requirements to ensure successful execution of the workshop.

Completion

Maintaining a focused project schedule with routine meetings and communication with CBEP regional leadership and partners, and allowing for continued coordination while maintaining targeted objectives, Metabiota will complete the sampling portion of this project between September and November 2015. The remaining six months will be utilized for screening samples for the presence of viral RNA, antibodies, and preparing samples for Next-Generation Sequencing. Dedicating two technicians to process the samples along with SME and programmatic oversight will ensure that we meet the project objectives by May 2016. Metabiota

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believes that the experience and management it will bring to this project, in collaboration with regional SMEs and CBEP, will guarantee success.

Technical Approach

Introduction

To accomplish the study, Metabiota will maintain open lines of communication and will follow the study design and required research protocols developed, reviewed and approved by study SMEs and the appropriate ethical review boards prior to implementation. Metabiota will implement the proposed research activities according to schedule to ensure that CBEP requirements are met, in the assigned timeframe, supporting solid scientific engagement within the region and resulting in risk mitigation and scientific collaboration to further develop and enhance biosafety and surveillance efforts on an international plane.

This will be facilitated through the study implementation as follows: The identified cave site will be intensively sampled for the presence of known select agents that are naturally harbored in bats and that have caused mortality in humans. Samples have been collected from this site for the past two years by NCBS researchers, and these samples are available for screening and will provide background data. Research teams will visit the site three times to collect bat excreta, urine, oral swabs, anal swabs, blood, sera, and tissues (kidney, spleen, lung, intestine) from harvested bats. The first visit will be 4-6 weeks before the bat harvest to ascertain the baseline level of prevalence, the second trip will be during the harvest, and the third trip will be 4-6 weeks after the harvest. Samples will be given a unique identification number and this will be tagged to the sample type and organism type so that there will be shared identification markers between data categories. This will enable researchers to maintain sample fidelity and ensure a known location for each original sample, extracted nucleic acid, and PCR product. All original samples will be kept in a secured, locked freezer, and sample information will only be made available to the project team members following appropriate in-country and ethical guidelines for sample storage and analysis. Samples will be screened by PCR with family-specific primers, sera will be screened using a Luminex assay, and samples will also be screened with next-generation sequencing approaches to capture the maximum divergent virus lineages. This will allow researchers to know which viruses are circulating in the bats and how much risk there is for the bat hunters, and their community. This approach is geared towards achieving the following objectives:

1. Determine the virus community in the three species of bats, specifically paramyxoviruses, filoviruses, and coronaviruses;
2. Examine if detectable virus prevalence increases after an anthropogenic stress event;
3. Improve molecular virus diagnostics and epidemiology study systems;
4. Develop long-term surveillance in both wildlife and humans surrounding use of bushmeat in India.

Implementation of this approach will result in:

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- Determination of the specific criteria for molecular study for selected pathogens in India. Testing will include isolate identification with CSIRO-validated methods and protocols for PCR;
- Performance of phylogenetic analysis for select agents, specifically filoviruses (Ebola virus), paramyxoviruses (Nipah virus), and coronaviruses (SARS-CoV), and prevalent genotypes and relatedness to pathogenic variants will be determined;
- Control measures and biorisk assessment will be determined for human activities regarding bat hunting and consumption;
- Samples will be maintained at TIFR-NCBS for future research and enhanced virus characterization.

Communications Protocols

Metabiota will maintain open communications with international collaborators necessary for implementing the study, to include monthly project calls and routine email communication with the teams implementing and coordinating research activities. In addition, Metabiota will maintain routine communication with CBEP regional leadership to ensure they have full visibility on the project, status and process of execution.

Phases of Technical Approach

Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project and to provide overall feedback and reporting on the project route to success. The following phases are required for this project:

Phase 1: Hold a project kickoff meeting in Singapore with research and administrative teams.

Objective and Process: Metabiota will coordinate with Duke NUS and NCBS to schedule and facilitate a project kickoff meeting outlining the objectives of the study, logistical coordination required toward implementation, review of protocols and on-site training for NCBS field researchers in preparation for sampling and implementation.

Deliverable: Initiation of research activities, study-specific training on protocols and safe handling, and sampling techniques required for project execution. Establishment of project guidelines, objectives and, deliverables.

Phase 2: Implement three-month sampling of bat colony at identified cave site.

Objective and Process: Metabiota will work with Duke NUS and NCBS to collect bat samples in 4-6 week intervals surrounding the annual bat cull. Samples will be collected by a team of 4 local ecologists and will be overseen by Duke NUS-trained researchers. All samples will be transported back to NCBS for sample processing and analysis following safe handling and proper cold chain methods of transport.

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Deliverable: Collected samples from harvested bats transported back to NCBS for further processing.

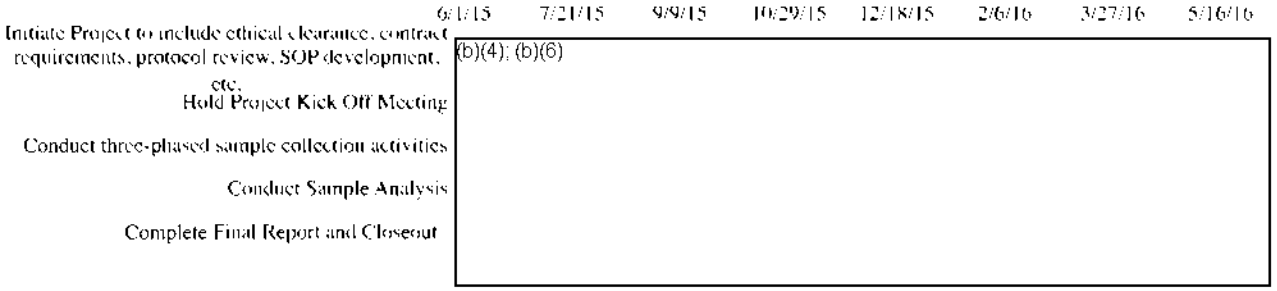
Phase 3: Sample screening and analysis.

Objective and Process: Screen samples using family-specific PCR primers, Luminex assays, and next-generation sequencing approaches to capture the maximum divergent virus lineages to identify which viruses are circulating in the bats.

Deliverable: Final report showing findings from the study that can be used to produce policies that will minimize the exposure of bat-borne viruses during the collection and processing of bat catches as a food source, further reducing infectious disease threats.

To accomplish the above phases, Metabiota will work with Duke NUS and NCBS to initiate and implement the 12-month research activity resulting in increased biosurveillance and security measures and a greater scientific understanding of the ecology of reservoir-borne viruses and their transmission to prevent zoonotic epidemics and build the global community`s ability to implement preventative measures through biosurveillance, detection and response initiatives that mitigate the threat of these viruses causing disease outbreaks on a pandemic scale.

Timeline



Metabiota Key Personnel

(b)(6) Deputy Director

Mr. (b)(6) the Deputy Director of the Academic Engagement Partnership (AEP) Program and an Internationally Certified Emergency Manager (CEM®) with 14 years of experience leading, managing, and consulting on the full spectrum of Counter Weapons of Mass Destruction (CWMD) operations and Chemical/Biological Defense programs, as well as research and development in support of joint task forces, special operations forces, other government agencies, and the Department of Defense on the strategic, operations, and tactical leve (b)(6) is a driven leader with a proven track record of building value with partners through the identification of capability gaps, and the development and validation of effective solutions to the unique challenges faced when dealing with Chemical. Biological, Radiological, Nuclear, and Explosive (CBRNE) threats. In addition, he is well versed at risk analysis and management, strategic planning, policy analysis and political engagement.

(b)(6) ogram Manager

is the Southeast Asia and Middle East Regional Program Manager of the Academic Engagement Partnership (AEP) Program with over eight years experience as a global health project/program manager, with a focus in SE Asia regional activities, having lived and worked in Cambodia for four years supporting DoD efforts in the region. Since joining Metabiota in 2010, she has managed DTRA CBEP engagements in West and Central Africa, to include Ebola response efforts, as well as spending three years as the Program Manager on projects funded by USAID, AFHSC GEIS. BEP, NIH, USAMRIID, and HJF spanning all regions of Metabiota engagement.

(b)(6) bject Matter Expert

joined Metabiota in March, and will be engaged as a Subject Matter Expert for this effort supporting programmatic and logistical requirements. She joins the team following completion of an MBA with experience in project controls, coordination, strong writing and editing skills and will bring a business approach to the project, keeping track of all deliverables, scheduling, and facilitating coordination with both internal and external stakeholders. In addition to her business expertise, (b)(6) worked as a Data Technician and Interviewer for NIH/CDC sponsored studies, while completing her undergraduate work at Duke.

(b)(6) – Subject Matter Expert

(b)(6) received his BS in Entomology and Zoology from the University of Wisconsin at Madison and his PhD in Parasitology with a focus on vector borne infectious diseases from Department

of Tropical Medicine at Tulane University. He was the laboratory manager for a large mosquito control company and his doctoral research focused on the transmission cycles of arboviruses between birds and mosquitoes, especially regarding the relative contribution of these individuals towards viral amplification and dampening. As a Senior Research Fellow at Duke-NUS, his current work focuses on the ecology and evolution of novel and reemerging infectious diseases in different animal populations in Singapore. His aim is to understand how ecological and climatological variables impact the presence or absence of host, ectoparasites, and parasites in different habitats and if there is exchange or isolation of genes. His primary interest is on the viral ecology in the bats of Singapore. He also is the insectary manager and works on arbovirus dynamics in mosquitoes.

(b)(6) – Subject Matter Expert

(b)(6) primary training was in ecology and evolution at The University of Melbourne. He obtained his PhD at The University of Hong Kong in 2003, where he also undertook his post-doctoral training in the Department of Microbiology (b)(6) s an authority on the evolutionary aspects of influenza virus biology, especially at the human-animal interface; he has provided seminal studies on H5N1 viruses as well as the pandemic viruses of 1918, 1957, 1968 and 2009. In 2007, (b)(6) was awarded a 7-year Career Development Award to continue his work on influenza as part of the NIAID/NIH Centers of Excellence for Influenza Research and Surveillance. His research in the Laboratory of Virus Evolution integrates ideas from a number of different fields including evolutionary genetics, virology, ecology, and infectious disease epidemiology. His research is directed at efforts to better understand viral disease ecosystems in Asia, specifically the animal-human interface, and to support rational implementation of disease control and intervention strategies. He conducts human and animal disease surveillance, isolates and characterizes pathogens (genetic and phenotypic), and generates hypotheses that to test in the lab. He is primarily interested in the roles played by mutation, natural selection, recombination/reassortment and host immune response on virus diversity within an individual, during transmission within a population and during inter-species transmission between hosts.

(b)(6) Ph.D. – Subject Matter Expert

(b)(6) received his PhD from The University of Hong Kong on microbial ecology and evolution. His post-doctoral studies have described the origins, spread, ecology and evolution of avian and swine influenza viruses, including the 2009 swine-origin H1N1 pandemic virus. His studies have led to the proposal that bats are natural reservoirs for both Astroviruses and Coronaviruses. He is currently an Assistant Professor in the Signature Program of Emerging Infectious Diseases at the Duke-NUS Graduate Medical School Singapore. His current research encompasses concepts and recent methodological advances from evolutionary genomics, molecular virology and epidemiology to address the mechanisms and factors that shape virus evolution. He is primarily interested in the animal-human interphase of RNA viruses, including disease surveillance, modeling virus transmission and evolution at the genomic scale

(computational), and modeling virus evolution and host responses *in vivo* using animal models (laboratory based).

Cost Management

The Metabiota team and all partners will maintain an acute focus on cost management to ensure that the study is delivered at a reasonable cost to the Government. Our team will provide full oversight of Duke NUS and NCBS to ensure accurate and responsive financial reporting and will facilitate cost savings to the Government wherever possible. Metabiota will follow all procurement and travel regulations, ensuring the best price is secured while maintaining product integrity.

Budget Narrative

Period of Performance

The Period of Performance for this effort is June 1, 2015 to May 15, 2016.

Labor

Costs for direct labor to support this activity is required for the following personnel:

Metabiota Program Manager, (b)(6), to oversee and execute the project to include management of deliverables, logistics, management of project personnel, tracking of project requirements, and implementation.

Metabiota Subject Matter Expert (SME) (b)(6), to provide overall expertise in project coordination in direct support of the program manager, to include tracking of deliverables, project schedules, sub-contracted SMEs, and local collaborators facilitating execution of the research project. She will assist in coordination of the research project until an identified SME can be hired to support coordination of this effort through the duration of the project at .5 FTE. (b)(6) will provide the necessary support to ensure project kickoff and execution and a smooth transition with the new hire to facilitate this engagement. Once they are onboard she will maintain visibility across the program and provide support at a lower LOE.

Metabiota Subject Matter Expert (SME), TBD, will be engaged to provide expertise and project coordination at 50% LOE to ensure overall execution in direct report to the Program Manager. This individual will coordinate the day-to-day activities required to implement the research and ensure communication is maintained across collaborating institutions, to include submission of deliverables and routine project updates. This individual will assist in financial tracking of the project to ensure it stays in budget and will provide general project administrative support to the team.

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Metabiota SME II, will be engaged to provide scientific and technical support to the project, integrating with both Duke NUS and NCBS researchers to ensure scientific rigor and oversight is maintained throughout the duration of the study.

Duke NUS Research and Data Analyst will be engaged to support the laboratory testing and bat trapping in conjunction with the NCBS team in supporting this research. This individual will assist in training NCBS field teams, trapping bats, field collection and processing of samples and setting up diagnostic assays. They will perform basic laboratory techniques to include nucleic acid extraction, PCR, and basic sequence analysis.

NCBS Researcher (b)(6) is a PhD student who will collect the bat samples in conjunction with a team of local ecologists, transport the samples to NCBS, and process and screens the samples for evidence of coronaviruses, filoviruses, and henipaviruses. In addition, he will prepare the laboratory and field reports and will process all data and analysis with support from senior researchers working on this project.

Additional costs for direct labor supporting the Deputy Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

In addition, labor costs are not being requested for SMEs from Duke NUS and NCBS to include (b)(6) who will be providing research collaboration to include supporting evolutionary analysis of NGS and Sanger sequence data, and research activities.

Materials

Materials and supplies are required to support the implementation of research activities for this project. Materials include bat trapping equipment, field supplies for sample dissection and collection, and laboratory materials to include extraction kits, PCR reagents, Elisa plates, and sequencing costs required for technical implementation. CLS will procure and ship all identified supplies that will not be purchased in country, or directly by Duke NUS to support laboratory and field training operations at the laboratory in Singapore.

Publication costs are requested to support the submission of abstracts and other publications generated from this research activity. All documents will be pre-approved by the PAO.

Communication costs and video conferencing are requested to support routine communication with project personnel based internationally, as well as during international travel to India and Singapore in support of project implementation.

Internet and cloud-based document management costs are requested to support routine communications and management of project files in support of this engagement.

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NCBS will provide research services to implement this study. Research services will include trapping, sample collection, transport and analysis at NCBS, India.

NCBS will provide ecology services to support bat trapping, handling and sampling. Services will be provided for a three-month period during which sample collection will be ongoing. They will not be engaged for the remainder of the project.

Other Direct Costs

Per contract guidelines Defense Base Act (DBA) insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for Duke NUS and NCBS personnel for the period of performance for this engagement. In addition, DBA insurance will be secured for Metabiota personnel traveling to Singapore and India in support of this activity.

SOS Insurance is required for Metabiota personnel traveling to Singapore and India to support this research activity, ensuring they are covered for emergency and evacuation services if necessary.

Subcontracts

A Subcontract will be issued to Duke NUS and NCBS to support their labor requirements on this engagement, as well as in-country materials required for support of this project. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested for Metabiota and NCBS personnel to travel to Singapore to conduct the project kickoff meeting with Duke NUS at the start of this engagement to support protocol review, logistical requirements, contract implementation, project-specific training, ensuring the study is outlined and established with all teams prior to initiation of sampling and research activities.

Travel is also requested to support Metabiota and Duke NUS personnel to travel to Bangalore and Dimapur, India to support project implementation with NCBS researchers to include laboratory and field oversight during the first events, with a follow up by the Duke NUS researcher to ensure the study is moving forward smoothly and according to protocol. Travel support for Duke NUS personnel not requesting labor costs, will be covered by CLS. In addition, travel is required for NCBS researchers to travel from Bangalore to Dimapur to implement sampling activities at the bat cave.

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Travel is requested for (b)(6) to travel from California to DC in support of overall program management and meetings with AEP and CBEP regional leadership to effectively manage the research activity through in-person meetings and coordinated efforts.

Conclusion

Emerging infectious diseases (EIDs) are a challenge for medical and public health infrastructure across the globe. These pathogens are predicted primarily to be of zoonotic origin. Interspecies zoonotic RNA viruses are the primary etiological agent in emerging infectious diseases, and wildlife is the natural reservoir for known and unknown infectious zoonotic pathogens. Bats animals appear to be the putative source for medically important viruses including rabies, the MERS- and SARS-coronaviruses, Nipah virus, and Hendra virus; exposure of incidental hosts such as humans to coronaviruses or paramyxoviruses can progress to infection causing high levels of morbidity and mortality. The economic costs of these infections number in the billions of dollars, including the burden of morbidity and mortality along with lost tourism dollars. For example, the SARS outbreak alone was estimated to cost over $50 billion, demonstrating the need for proactive surveillance.

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP PACOM in the implementation of the study. Metabiota will ensure, through strong project management and risk mitigation, that the research will be executed in an efficient and timely manner, delivering a top quality study designed to support enhanced biosurveillance and biosafety efforts in the region.

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Metabiota's Technical and Cost Proposal

"DTRA/CBEP Implementation of Distance Learning on the Basics of Passive Surveillance for Animal Diseases in Iraq"

Technical Direction Number: TD-005
Contract Number: HDTRA1-14-C-0104
CAGE Code: 56SP4
DUNS number: 828131156

Small US Business
Metabiota, Inc.

METABIOTA

One Sutter Street, Suite 600 San Francisco, CA 94104

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Executive Summary

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) has tasked Metabiota, Inc. through the Academic Engagement Partnership (AEP) contract vehicle with developing and delivering an eighteen (18) month course to teach the basics of passive surveillance for animal diseases to a cohort of Iraqi veterinarians. The purpose of the course is to train Iraqi veterinary workers (including field, laboratory, and public health sectors) in the basics of passive biosurveillance and disease diagnosis. This document outlines the approach that Metabiota will employ to accomplish the requirement. In short, Metabiota intends to develop curriculum for and deliver a training course that uses both online instruction and three in-person events to enhance the ability of Iraqi animal health workers to safely and securely diagnose animal diseases through pathological observations, with an emphasis on differential diagnosis against high-consequence pathogens.

Project Overview

Introduction

Through AEP Technical Direction 005, DTRA CBEP has tasked the Metabiota team with administering an eighteen (18) month distance-learning course covering passive surveillance for animal disease in Iraq. DTRA has asked for this course to work through the basic concepts of disease pathogenesis, the development of lesions, the significance of lesions in terms of disease, and how these lesions relate to the clinical disease in an animal. Both endemic and high consequence pathogens are to be covered to help participants distinguish key aspects that differentiate them, and to help participants appreciate the most appropriate samples to ensure accurate diagnosis.

Background

The Metabiota team understands that the US Department of Defense (DoD) initiated CBEP through DTRA in order to reduce the threat of biological outbreaks. The team further recognizes that to achieve its mission, DTRA CBEP works collaboratively with partner nations, U.S. Government (USG) agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health, promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner. Through the AEP Program, Metabiota aims to support the CBEP mission by using our broad expertise and deep networks to develop and implement solutions to address the requirements put forth by DTRA.

In support of this requirement, the Metabiota team intends to develop and administer a comprehensive course that will support strategic DTRA CBEP objectives by enhancing Iraq's capacity to identify and mitigate the threat of infectious disease events in animals while increasing engagement with Iraqi animal health workers and scientists. The team's on-the-ground experience and decades of expertise makes us well positioned to support the implementation of this course and all of the associated activities.

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Purpose

Recurring civil strife in Iraq has disrupted capacity for adequate surveillance and diagnosis for many diseases in animals. Currently, Iraqi animal health professionals, both in the field and in the laboratory, are insufficiently prepared to consider all relevant differential diagnoses. As a result, passive surveillance is very deficient, and a disease surfacing in the field is likely to be unrecognized or misdiagnosed. When these diseases are high consequence pathogens, it puts many more animals and often humans at risk.

To address this concern, DTRA CBEP has identified the need for an 18-month course on the basic pathogenesis of disease, with an emphasis on high consequence pathogens. It will be held for approximately 30 key. English-speaking animal health workers to enable them to more quickly recognize an incursion or outbreak of important pathogens. This engagement will enhance Iraq's capacity in disease surveillance and response, while adhering to international codes of security and safety to ultimately provide a mechanism for sustained engagement.

The goal of this training is to strengthen the initial comprehensive consideration of disease, applying pathogenesis training to allow animal health workers to increase efficiency and accuracy of disease diagnosis, especially for high consequence pathogens.

Objectives

We will build disease diagnosis expertise among a selected cohort of Iraqi veterinarians. At the end of the course, the participants should be able to:

- Delineate the pathogenesis of basic pathologic processes;
- Use problem-solving skills to explain how clinical signs might be related to the basic disease process occurring in the animal;
- Explain key clinical and pathologic features of high consequence pathogens;
- Comprehend basic epidemiological concepts and how they integrate with daily veterinary practices to include but not limited to recording and reporting of data to measure disease prevalence and risk factors; and
- Comprehend biosafety, biosecurity, and biorisk management concepts and how they can integrate with daily veterinary practices.

Threat Reduction Outcomes

Successful completion of this course will address the DTRA CBEP threat reduction mission in several ways:

- The selected Iraqi veterinarian cohort will be capable of earlier and more accurate detection of all diseases, with an emphasis on high-consequence pathogens, so that these agents can be properly controlled and secured.
- Basic epidemiological concepts will be introduced, laying the foundation for improved disease reporting.
- Basic biosafety, biosecurity, and biorisk management concepts will be introduced, reducing the risk of animal and zoonotic disease outbreaks.
- A sub-cohort of Iraqi veterinarians capable of training additional personnel will be established.

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Management Approach

Introduction

Metabiota will employ its existing organizational leadership to interface with the Regional Science Manager and Country Manager as needed to direct the operational and administrative support required to implement the training curriculum. Our Program Manager will oversee the administration of the curriculum, with the support of a Project Coordinator, Travel Coordinator, and Qualified Trainers to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Project Team Structure

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the Program Manager, Project Coordinator, Travel Coordinator and the Qualified Trainers and Subject Matter Experts that will be tasked with specific assignments to support the development and implementation of the course based on their administrative and scientific expertise. This team includes experts at the University of Georgia (UGA) and the Jordan University of Science and Technology (JUST). This team of experts will ensure the overall project management and tasks associated with the training are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.

Initiation

Following authorization to proceed by DTRA, the Metabiota team will coordinate initial meetings to secure a clear understanding of the objectives and mission of this undertaking, and make sure all stakeholders agree to it. As this project will involve coordination with foreign entities, Metabiota will also seek to develop a communications protocol for stakeholders, to be approved by DTRA.

Execution

The core project management team will maintain oversight of the project at all times and will ensure successful execution of the curriculum, tracking objectives to ensure the project stays on schedule. The project will be managed according to the proposed plan and will be course corrected as needed to ensure target end-goals are reached. The following tools will be used to guarantee the project schedule will be maintained:

Project Administration:

1. Weekly team meetings and conference calls will be held to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Coordinator and will include relevant stakeholders as needed based on the requirements and stage of implementation.
2. Routine calls and communication via email will be held with CBEP regional leadership and Metabiota to provide status updates and ensure training implementation.

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Project Reporting:

1. Weekly status reports will be provided by the Program Manager to senior Metabiota leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction, as needed to ensure training goals are met.

Completion of this task will occur in three phases – curriculum development, logistics planning, and course implementation. As the proposed course is 18 months long, these phases may overlap. Metabiota will maintain management oversight during all phases to ensure that all DTRA requirements and deadlines for submission of documents and review of materials are met.

For the curriculum development phase, Metabiota will identify the required Qualified Trainers and Subject Matter Experts needed to complete curriculum development from its cadre of experts. We will engage the trainers to develop a comprehensive curriculum, which will take into account regional sensitivities and religious requirements to ensure the course is conducted in alignment with regional practices.

For the pre-implementation logistics phase, Metabiota will coordinate with all relevant parties, including DTRA, A&AS, all subcontractors on this effort, CLS, and the trainees to ensure that communications remain clear and that planning proceeds smoothly. We will maintain oversight of procurements and all required documentation in order to ensure smooth implementation.

For the implementation of the course, Metabiota will task the appropriate stakeholders with executing the requirements. Metabiota will maintain communication with regional and country leads during implementation to ensure smooth operations and successful engagement.

Monitoring and Controlling

1. Routine risk assessment will be performed internally among the Metabiota project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with CBEP regional leadership to ensure the project remains on track and is implemented according to standard.
3. Routine oversight and coordination will be performed to ensure our teaming partners are performing all necessary requirements to ensure successful execution of the course. Monitoring will include both administrative and fiscal oversight.

Completion

Metabiota will drive the project to completion in a timely manner by maintaining a focused project schedule with routine meetings and communication with CBEP regional leadership. This will allow for continued coordination, while maintaining targeted objectives. As the course progresses, Metabiota will provide all required deliverables and after action reports to allow for lessons learned and continuation of solid execution and implementation of activities. Metabiota

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believes that the experience and management it will bring to this project, in collaboration with CBEP will guarantee success.

Technical Approach

Introduction

To address DTRA's requirements, the Metabiota team will build disease diagnosis expertise among a core group of Iraqi veterinarians, from the field, from public health, and from the laboratory, using a combination of in-person trainings and weekly web-based modules.

The program will entail didactic, interactive, and case-based materials to work through the basic concepts of disease pathogenesis, the development of lesions, the significance of lesions in terms of disease, and how these lesions relate to the clinical disease in an animal. Both endemic and high consequence pathogens will be covered to help participants distinguish key aspects that differentiate them, and to help participants appreciate the most appropriate samples to ensure accurate diagnosis. Additionally, we will introduce the cohort to the fundamental concepts of epidemiology, biosafety, biosecurity, and biorisk management, especially as applied to daily veterinary practices.

Phases of Technical Approach

Phase 1: Development of curriculum and teaching materials
Phase 2: Pre-implementation course logistics
Phase 3: Implementation of the course

There will be three phases to the technical approach. Phase one will be initiated immediately following technical direction and will involve coordination of Metabiota and UGA qualified trainers and subject matter experts to develop the curriculum and teaching materials. Phase Two will be the coordination of pre-implementation course logistics, to include the identification of Iraqi participants, procurement of materials and supplies, and logistics planning for in-person trainings. Phase Three will be the actual implementation of the course, including both the in-person trainings and the delivery of instruction via the web portal.

Phase 1 – Development of curriculum and teaching materials (15 June – ongoing)

Objective: Develop curriculum and teaching materials to address course objectives.

Process: Metabiota, in coordination with UGA, will develop the curriculum and teaching materials. This will also include submission of materials to DTRA for review, revision, and approval. Metabiota will adhere to all CBEP deadlines if possible, acknowledging that if DTRA has a specific date in mind for the initiation of training that it may not be possible to adhere to all deadlines. Additionally, it may be necessary to submit teaching materials on a rolling basis, as the Metabiota team expects that there may be a significant quantity of materials to be reviewed given the extended nature of the proposed course. If a rolling submission is deemed to

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be necessary, Metabiota will attempt to divide the materials into logical sets to facilitate ease of review and logistics planning. After approval, the Metabiota team will ensure course materials are in a format appropriate for web delivery and will work with the course portal provider to upload materials.

Metabiota will combine our expertise in epidemiology, biorisk management, and public health with the veterinary expertise of UGA to develop a course that closely aligns with the DTRA CBEP mission of reducing biological threats through improved biosurveillance, biosafety, and biosecurity.

Deliverables: Submission of draft and final teaching materials.

Phase 2 – Pre-implementation course logistics (15 June – ongoing, as needed)

Objective: Identify an appropriate cohort of Iraqi veterinarians, procure materials, and arrange all necessary logistics for course kickoff.

Process: Metabiota and UGA will engage DTRA, and through DTRA, Iraq's Ministry of Agriculture, to identify a cohort of Iraqi veterinarians to participate in this course. In addition, Metabiota will work with trainers and local collaborators to ensure initiation and implementation of all requirements leading up to each training event, to include procurement, travel, transport, and coordination of the event.

Deliverables:

- Deliverable #1: List of Iraqi veterinarians.
- Deliverable #2: Final materials list. Engage CLS or JUST as needed for procurement support.
- Deliverable #3: Work with local and international vendors to procure supplies and have them shipped or delivered to training location in Irbid, Jordan.
- Deliverable #4: Work with DTRA and CLS to arrange logistics for Iraqi participants. Ensure all arrangements are made in advance to support training engagements.
- Deliverable #5: Training event plans for each of the in-person training events.

Phase 3 – Implementation of the course (October 2015 – April 2017)

Objective: Implement the course, including three in-person training events.

Process: Metabiota will engage UGA to establish the course website, and UGA's expert trainer will be the primary instructor for delivery and grading of all teaching materials. The three in-person training events will be held at JUST with instruction from UGA and Metabiota trainers. Personnel from JUST will be engaged to provide additional expertise and logistics support. Metabiota personnel will oversee UGA and JUST personnel on the ground to ensure all training activities are executed.

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Deliverables:

- Deliverable #1: Establish and verify functional course portal and conduct online courses.
- Deliverables #2-4: Execute in-person training events at beginning, middle, and end of course.
- Deliverable #5: Provide training trip reports upon completion of training events according to CBEP guidelines.

Training Overview

The training, both in-person and distance delivered, will create improved overall passive animal health surveillance, and a more rapid assessment and diagnosis in the case of high consequence pathogens. The end result will be increased efficiency and accuracy of the overall surveillance for diseases of animals, including the control and securing of high consequence pathogens. A tentative timeline of the coursework is as follows, with brief description of each of the segments below:

Timeline of course

Activity/month	1	2-7	8	9-17	18
Group training					
WEB MODULES General Pathology Basic concepts for all body system		Basic Pathologic Processes: Circulatory — Cell Injury → Inflammatory			
WEB MODULES Systemic pathology – Basic concepts applied to each body system				Systemic Pathology: Cardiovascular → Reproductive → Digestive → Urinary→ Skeletal → Respiratory → Nervous	
Applied problem solving – case-based Q&A		Weekly case assignment, presented over the internet			
Submission of cases		One case per month to be submitted by small groups			
Train-the-trainer modules, learning about education		Optional modules, one per month, on adult learning and effective presentation skills			

- ***Group trainings (3):*** At an initial 5-day session, participants will gather for in-depth instruction on biosafety, biosecurity, and procedures for necropsy. A mid-course training will cover pathogenesis in more detail, using General Pathology concepts learned during the previous six months. There will be continuing emphasis on basic epidemiology, biosecurity, biosafety, and high consequence pathogens. At the end, there will be a course to review all aspects of pathogenesis and diagnosis/control of the high consequence pathogens. Also at this third training, selected trainers will be utilized for much of the information delivery, creating an effective bridge to Iraqi-centric, and therefore sustainable, training.

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- ***Web modules***: Over the course of 18 months, there will be lessons delivered over the internet on basic concepts in pathology and pathogenesis, beginning with general pathology and progressing through the body systems. These web lessons will have multiple embedded self-quizzes, and will be reinforced by written notes and narrated PowerPoint's, all available by downloading from the web lesson.
- ***Applied Problem Solving***: A weekly case-based problem-solving assignment, relevant to the week's course material, will be presented on the internet. Participants will have to work through the presented case, and answer questions based on the knowledge gained during the week. Participants will have to submit their answers for evaluation, and will receive feedback on their answers. For those without fluency in English, they will have the option of submitting in Arabic.
- ***Submission of cases by participants***: Once per month, participants, organized into geographically proximate groups, will be required to submit a case from their work, complete with signalment, photographs, and tentative morphologic diagnoses. The best of these will be posted for everyone to see, so that participants are able to work together and also view other groups' efforts.
- ***Train-the-trainer modules***: Optional modules for those who desire more information on effective learning methodologies, one per month. Those completing/excelling in these modules will be the participants selected for training of others at the final workshop.

Risk Management

In order to maintain course action and guarantee trainings that will reduce regional risk and forward CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown on the next page as Table 1. Identifying and acknowledging the risks associated with not implementing this training, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

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Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
			Cost			
Technical Direction NTE Ceiling	The current budget with travel, management, procurement, and execution will exceed the ceiling for the technical direction	5	4	(b)(4); (b)(6)	Metabiota will monitor costs and work diligently to seek out the lowest costs possible for procurement and travel, as well as mitigate extended labor hours during events	**Med-High**
			Schedule			
Period of Performance	The requirement is for an 18-month course but the Metabiota AEP contract is only through May 2016.	5	5	(b)(4); (b)(6)	Request confirmation from DTRA contracting that activities will be permitted to extend beyond the current contract POP.	**Med-High**
Acquisition of materials	Procurement of materials in US for shipment to Jordan and Iraq may incur delays.	4	4		Engage JUST to assist with procurements.	(b)(4); (b)(6)
			Performance			
Security environment / Logistics coordination	Iraq's current political situation and security environment may impact the ability of trainees to attend in-person trainings, and may also impact telecommunications access for distance learning.	4	5	(b)(4); (b)(6)	Work with DTRA to monitor security environment and mitigate security concerns; provide trainee cohort with mobile internet access.	Med
Identification of appropriate trainees	For the course to achieve desired threat reduction outcomes, the appropriate trainee cohort must be identified.	3	4	Med	Metabiota team will work with DTRA and in-country POC at Ministry of Agriculture to identify a diverse cohort of capable trainees.	(b)(4); (b)(6)
Course completion rates	Attendance in distance-learning courses is often spotty	3	3	Med	Use in-person trainings and internet access as rewards for adherence to schedules	

Table 1. Risk Management Matrix for implementation of distance learning course for passive surveillance for animal diseases in Iraq.

Cost Management

The Metabiota team and all partners will maintain an acute focus on cost management to ensure that the training is delivered at a reasonable cost to the Government. Our team will provide full oversight of UGA and JUST to ensure accurate and responsive financial reporting and will facilitate cost savings to the Government wherever possible. Metabiota will follow procurement

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regulations ensuring the best price is received under the time constraints using all means available.

Budget Narrative

Period of Performance

The Period of Performance for this effort is June 1, 2015 to April 30, 2017. The training curriculum is 18 months; however, it is anticipated that training will not begin until 1 October 2015 due to time associated with proposal development and project initiation activities.

Labor

Costs for direct labor to support this activity is required for the following personnel:

Metabiota Program Manager – Oversee and execute the training to include management of deliverables, logistics, procurement, tracking of project requirements, and implementation.

Metabiota Project Coordinator – Assist in coordinating the course development and execution, to include assisting in management of deliverables, logistics, and procurement, tracking of project requirements, deliverables and logistics.

Metabiota Subject Matter Expert – Incorporate basic epidemiology concepts into the curriculum and assist in delivering draft and finalized teaching materials.

Metabiota Qualified Trainer – Incorporate biosafety, biosecurity, and biorisk management concepts into the curriculum, assist in delivering draft and finalized teaching materials, and to implement the biorisk management portion of the curriculum at the in-person training events.

UGA Qualified Trainer – Develop veterinary pathology curriculum, assist in delivering draft and finalized teaching materials, deliver in-person trainings, and implement the distance-learning portion of the course.

JUST Qualified Trainer – Assist in delivering in-person trainings, and assist with regional adaptation of materials as needed.

Additional costs for direct labor supporting the Deputy Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials

Materials and supplies are required to support teaching efforts, to include textbooks, necropsy kits, slaughtered animals for practice necropsies, USB internet devices, and prepaid internet

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access cards. Every effort will be made to secure the required materials at the lowest cost, either by engaging JUST to assist with local procurement, or by using CLS to ship materials from the US.

Other Direct Costs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all Metabiota and subcontractor personnel who will attend the in-person trainings, including those trainers coming from UGA and JUST, for the period of performance for this engagement.

Subcontracts

A subcontract will be issued to UGA and JUST for time provided by their trainers, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

At the request of DTRA, travel is required for the Program Manager and Project Coordinator to travel to Irbid, Jordan to oversee the implementation of the training.

Travel is requested to support all Qualified Trainers to facilitate implementation and conduct training activities in this effort. Trainers will be traveling from Athens, Georgia (UGA) and Washington, D.C. (Metabiota) to Irbid, Jordan.

Travel is requested to support all Iraqi veterinarians to attend on-site training at JUST (Irbid, Jordan). All travel logistics for Iraqi participants, including airfare, ground transportation, lodging, per diems, etc., will be requested via generation and submission of a CLS form.

Conclusion

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP CENTCOM in the implementation of Distance Learning on the Basics of Passive Surveillance for Animal Diseases in Iraq. Metabiota will ensure, through strong project management and risk mitigation that the training will be executed in an efficient and timely manner delivering a top quality course geared to support enhanced biosurveillance and biosafety efforts in the region.

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Appendix A – Team Metabiota Overview

Metabiota, Inc. is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science, including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in 20 countries and offices in San Francisco, Washington, China, Canada, and Sierra Leone.

Metabiota currently supports a number of Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. Metabiota's mission aligns well with CBEP and the entire Metabiota team is focused on supporting our U.S. Government (USG) Partners in reducing the risk of biological threats worldwide, and employs a collaborative and agile approach to biological risk reduction.

To ensure a successful event, Metabiota, in coordination with CBEP regional leadership and in country partners have built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGO) whose respective aims could impact DTRA CBEP objectives.

Metabiota will be leveraging the expertise and infrastructure of the University of Georgia (UGA) and the Jordan University of Science and Technology (JUST). The University of Georgia's College of Veterinary Medicine is one of the premier veterinary schools in the United States. UGA has a distance-learning platform, which will be adapted for this course; previously it has been successfully deployed for a limited training of Afghan veterinarians. The Jordan University of Science and Technology is regarded as one of the top educational institutions in Jordan and its Transboundary Animal Diseases Laboratory is supported as a regional center of excellence. JUST will provide a facility for the in-person component of the course, and will also provide additional veterinary and Arabic language expertise.

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METABIOTA

June 10, 2015,

Dr. (b)(6) Contracting Officers Representative J3CTB
Defense Threat Reduction Agency (DTRA)
8725 John J Kingman Road, #6201
Fort Belvoir, VA 22060

Sent via email to (b)(6)
CC (b)(6)
(b)(6)

RE: HDTRA1-14-C-0104 Technical Direction for the Study of the Risk of Bat-borne Virus Transmission from the Annual Bat Cull in Nagaland, India

Dear (b)(6)

Metabiota, Inc. (Metabiota) is pleased to present the attached proposal in response to the above referenced Letter of Technical sent by DTRA on May 26, 2015.

Metabiota intends to engage Duke NUS and The National Center for Biological Sciences for Implementation and completion of this training.

For the effort described, Metabiota estimates the Rough Order of Magnitude (ROM) to be **689,178** for a Period of Performance of June 01, 2015 to May 16, 2016. The detail budget is included. This proposal remains valid until September 30, 2015.

Please feel free to contact (b)(6) h questions or concerns at
(b)(6)

Sincerely,

(b)(6)

Contracts Manager

OPTION YEAR - SOW Section 4.3, Task 4 PACOM Regional Landscape Analysis

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: June 19, 2015
PERIOD OF PERFORMANCE: May 16 2015 -October 31 2015
PROJECT: PACOM Regional Landscape Analysis

	oaded based on rate card).	LOE Hours		Amount
	(b)(4); (b)(6)	389	$	(b)(4); (b)(6)
CLIN 1002		1,215	$	
CLIN 1002		1,858	$	
CLIN 1002		1,056	$	
CLIN 1002		950	$	
	Total Labor Costs (fully loaded):	**5,468**		
	OTHER DIRECT COSTS *(fully loaded).*			
	CLIN 1003 Materials		$	27,711.01
	CLIN 1004 ODCs		$	8,452.33
	CLIN 1005 Travel		$	11,656.82

(b)(4); (b)(6)

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 19-Jun-15
Project PACOM Regional Landscape Analysis
Period of Performance: May 16 2015- October 31 2015

CLIN No.	Labor Description	Cost	Total Hours	Total Billable Amount $
CLIN 1002	(b)(4); (b)(6)		389	(b)(4); (b)(6)
CLIN 1002			1,215	
CLIN 1002			1,858	
CLIN 1002			1,056	
CLIN 1002			950	
			5,468	

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 19-Jun-15
Project IPACOM Regional Landscape Analysis
Period of Performance: May 16 2015- October 31 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1003	EndNote Licenses	$ 249.95		
CLIN 1003	Journal Access	$ 629.00		
CLIN 1003	Papers Licenses	$ 79.00		
CLIN 1003	Graphics Services	$ 20,000.00		
CLIN 1003	Communications	$ 1,125.00		
CLIN 1003	Office Materials and Supplies	$ 150.00		
CLIN 1003	Cloud-based Document Management Licenses	$ 180.00		
CLIN 1003	Video conferencing and SMART board licensing and communications	$		

(b)(4), (b)(6)

(b)(4), (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 19-Jun-15
Project IPACOM Regional Landscape Analysis
Period of Performance: May 16 2015- October 31 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1004	DBA Insurance	$ 6,472.91	1	6,473
		Sub-Total		6,473

(b)(4); (b)(6)

TRAVEL ESTIMATE COST

Contract Name: Academic Engagement Partnership Program
Contract Number: HDTRA1-14-C-0104
Date Prepared: 19-Jun-15
Proposal: PACOM Regional Landscape Analysis
Period of Performance: May 16 2015- October 31 2015

	Domestic
Traveler:	(6) (6) (4) (6)
Departure Location:	Los Angeles, CA
Destination:	Washington, DC
Purpose:	Program Management
Airfare	$765
Lodging	916
Meals / Incidentals	213
Meals / Incidentals (First and Last Travel Days)	107
Ground Transport	$390
Incidentals	0
# of Days	5
Total Per Trip	**$2,391**
No. of trips	2
No. of persons	1
SUBTOTAL:	**$4,781.00**
TOTAL TRAVEL BUDGET:	**$4,781**

	International
Traveler:	(6) (6) (4) (6)
Departure Location:	Washington DC
Destination:	Manila, Philippines
Purpose:	Attend APSAD
Airfare	$1,893
Lodging	716
Meals / Incidentals	605
(First and Last Travel	182
Ground Transport	$560
Incidentals (Visa,	328
# of Days	5
Total Per Trip	**$4,284**
No. of trips	1
No. of persons	1
SUBTOTAL:	**$4,283.50**
TOTAL TRAVEL BUDGET:	**$4,284**

	Domestic
Traveler(s):	(6) (6) (4) (6)
Departure Location:	Los Angeles, CA
Destination:	New Orleans, LA
Purpose:	Attend ASM General
Airfare	$653
Lodging	1,016
Meals / Incidentals	497
(First and Last Travel	107
Ground Transport	$248
Incidentals	42
# of Days	7
Total Per Trip	**$2,592**
No. of trips	1
No. of persons	1
SUBTOTAL:	**$2,592.32**
TOTAL TRAVEL BUDGET:	**$2,592**

GRAND TOTAL
$11,657

USG Per Diem Rates			
Location	**Maximum Lodging**	**M&IE**	**Total**
Washington DC	229	71	300
Manila, Philippines	179	121	300
New Orleans, LA	151	71	222

OPTION YEAR - SOW Section 4.3, Task 4 PACOM Regional Landscape Analysis

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: June 19, 2015
PERIOD OF PERFORMANCE: May 16 2015 -October 31 2015
PROJECT: PACOM Regional Landscape Analysis

	oaded based on rate card).	**LOE Hours**		**Amount**
	(b)(4); (b)(6)	389	$	(b)(4); (b)(6)
CLIN 1002		1,215	$	
CLIN 1002		1,858	$	
CLIN 1002		1,056	$	
CLIN 1002		950	$	
	Total Labor Costs (fully loaded):	**5,468**		
	OTHER DIRECT COSTS *(fully loaded).*			
	CLIN 1003 Materials		$	27,711.01
	CLIN 1004 ODCs		$	8,452.33
	CLIN 1005 Travel		$	11,656.82
	Total Other Direct Costs (fully loaded):			(b)(4); (b)(6)
	Total:			

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 19-Jun-15
Project PACOM Regional Landscape Analysis
Period of Performance: May 16 2015- October 31 2015

CLIN No.	Labor Description	Cost	Total Hours	Total Billable Amount $
CLIN 1002	(b)(4); (b)(6)	$ (b)(4); (b)(6)	389	(b)(4); (b)(6)
CLIN 1002		$	1,215	
CLIN 1002		$	1,858	
CLIN 1002		$	1,056	
CLIN 1002		$	950	
			5,468	

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 19-Jun-15
Project IPACOM Regional Landscape Analysis
Period of Performance: May 16 2015- October 31 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1003	EndNote Licenses	$ 249.95	5	1,250
CLIN 1003	Journal Access	$ 629.00	1	629
CLIN 1003	Papers Licenses	$ 79.00	5	395
CLIN 1003	Graphics Services	$ 20,000.00	1	20,000
CLIN 1003	Communications	$ 1,125.00	1	1,125
CLIN 1003	Office Materials and Supplies	$ 150.00	5	750
CLIN 1003	Cloud-based Document Management Licenses	$ 180.00	5	900
CLIN 1003	Video conferencing and SMART board licensing and communications	$ 255.00	5	1,275
		Sub-Total		26,324

(b)(4); (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 19-Jun-15
Project PACOM Regional Landscape Analysis
Period of Performance: May 16 2015- October 31 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1004	DBA Insurance	$ 6,472.91	1	6,473
		Sub-Total		6,473

(b)(4); (b)(6)

TRAVEL ESTIMATE COST

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 19-Jun-15
Proposal: PACOM Regional Landscape Analysis
Period of Performance: May 16 2015- October 31 2015

	Domestic
Traveler:	(b)(6) (b)(4)
Departure Location:	Los Angeles, CA
Destination:	Washington, DC
Purpose:	Program Management
Airfare	$765
Lodging	916
Meals / Incidentals	213
Meals / Incidentals (First and Last Travel Days)	107
Ground Transport	$390
Incidentals	0
# of Days	5
Total Per Trip	**$2,391**
No. of trips	2
No. of persons	1
SUBTOTAL:	**$4,781.00**
TOTAL TRAVEL BUDGET:	**$4,781**

	International
Traveler:	(b)(6) (b)(4)
Departure Location:	Washington, DC
Destination:	Manila, Philippines
Purpose:	Attend APSED
Airfare	$1,893
Lodging	716
Meals / Incidentals	605
(First and Last Travel	182
Ground Transport	$560
Incidentals (Visa,	328
# of Days	5
Total Per Trip	**$4,284**
No. of trips	1
No. of persons	1
SUBTOTAL:	**$4,283.50**
TOTAL TRAVEL BUDGET:	**$4,284**

	Domestic
Traveler(s):	(b)(6) (b)(4)
Departure Location:	Los Angeles, CA
Destination:	New Orleans, LA
Purpose:	Attend ASM General
Airfare	$653
Lodging	1,016
Meals / Incidentals	497
(First and Last Travel	107
Ground Transport	$248
Incidentals	42
# of Days	7
Total Per Trip	**$2,592**
No. of trips	1
No. of persons	1
SUBTOTAL:	**$2,592.32**
TOTAL TRAVEL BUDGET:	**$2,592**

GRAND TOTAL
$11,657

USG Per Diem Rates

Location	Maximum Lodging	M&IE	Total
Washington DC	229	71	300
Manila, Philippines	179	121	300
New Orleans, LA	151	71	222

OPTION YEAR - SOW Section 4.3, Task 3 Study of the Risk of Bat-borne Virus

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: June 6, 2015
PERIOD OF PERFORMANCE: June 1 2015 - May 15 2016
PROJECT: India Bat Borne Virus Transmission Study

oaded based on rate card).		LOE Hours		Amount
	(b)(4); (b)(6)	476	$	(b)(4); (b)(6)
CLIN 1002		1,768	$	
CLIN 1002		1,474	$	
CLIN 1002		432	$	
CLIN 1002		86	$	
Total Labor Costs (fully loaded):		**4,236**		
OTHER DIRECT COSTS *(fully loaded).*				
CLIN 1003 Materials			$	124,453.74
CLIN 1004 ODCs			$	7,279.84
CLIN 1005 Travel			$	76,357.70
Total Other Direct Costs (fully loaded):				(b)(4); (b)(6)
Total:				

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 6-Jun-15
Project India Bat Borne Virus Transmission Study
Period of Performance: June 1 2015- May 15 2016

CLIN No.	Labor Description	Cost	Total Hours	Total Billable Amount $
CLIN 1002		(b)(4); (b)(6)	476	
CLIN 1002			1,768	
CLIN 1002			1,474	
CLIN 1002			432	
CLIN 1002			86	(b)(4); (b)(6)
			4,236	

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 6-Jun-15
Project India Bat Borne Virus Transmission Study
Period of Performance: June 1 2015- May 15 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1003	Harp Traps and Mist Nets	$ 6,250.00	1	6,250
CLIN 1003	Bat Bags	$ 6.75	100	675
CLIN 1003	50ml Falcon Tubes	$ 54.00	5	270
CLIN 1003	Clipboard	$ 13.50	4	54
CLIN 1003	Pencil/Pens,Permanent Markers for Lab	$ 1.35	1	1
CLIN 1003	Flagging Tape	$ 6.75	5	34
CLIN 1003	Bat Bands	$ 135.00	50	6,750
CLIN 1003	Biohazard Bags	$ 2.70	100	270
CLIN 1003	Sharps Boxes	$ 13.50	10	135
CLIN 1003	Scissors	$ 6.75	4	27
CLIN 1003	Cutting Board	$ 13.50	10	135
CLIN 1003	Plastic Sheets	$ 6.75	50	338
CLIN 1003	Masking Tape	$ 3.38	4	14
CLIN 1003	Paper Towel	$ 2.70	25	68
CLIN 1003	Brush for Ectoparasites	$ 6.75	5	34
CLIN 1003	Cold Packs	$ 10.75	5	54
CLIN 1003	Plastic Tubes Holder	$ 33.75	4	135
CLIN 1003	Plastic Sample Boxes	$ 27.00	10	270
CLIN 1003	Cardbox samples boxes	$ 13.50	10	135
CLIN 1003	Plastic Holder (falcon Tubes)	$ 33.75	5	169
CLIN 1003	Cotton Pads	$ 6.75	20	135
CLIN 1003	Plastic containers for necropsy instruments	$ 67.50	1	68
CLIN 1003	Printing and copying costs for materials	$ 1,350.00	1	1,350
CLIN 1003	Binders/Folders	$ 13.50	20	270
CLIN 1003	Field Supplies and Dissecting Equipment	$ 3,125.00	1	3,125
CLIN 1003	Extraction Kits and PCR Reagents	$ 33,125.00	1	33,125
CLIN 1003	ELISA Plates and Reagents	$ 6,250.00	1	6,250
CLIN 1003	Sanger and NGS Sequencing Costs	$ 25,000.00	1	25,000

CLIN 1003	Publications	$ 4,800.00	1	**4,800**
CLIN 1003	Communications	$ 4,500.00	1	**4,500**
CLIN 1003	Office Materials and Supplies	$ 150.00	12	**1,800**
CLIN 1003	Cloud-based Document Management Licenses	$ 180.00	12	**2,160**
CLIN 1003	Video conferencing and SMART board licensing and communications	$ 255.00	12	**3,060**
CLIN 1003	Internet	$ 95.00	12	**1,140**
CLIN 1003	NCBS Trapping Services 3 mons	$ 1,562.50	4	**6,250**
CLIN 1003	NCBS Research Services 12 months	$ 9,375.00	1	**9,375**
		Sub-Total		118,223

(b)(4); (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 6-Jun-15
Project India Bat Borne Virus Transmission Study
Period of Performance: June 1 2015- May 15 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1004	SOS Insurance	$ 830.00	2	1,660
CLIN 1004	DBA Insurance	$ 3,915.00	1	3,915
		Sub-Total		5,575

[redacted]

(b)(4); (b)(6)

TRAVEL ESTIMATE COST

Contract Name: **Academic Engagement Partnership Program**
Contract Number: [illegible]
Date Prepared: [illegible]
Proposal: [illegible]
Period of Performance: [illegible]

	Domestic		International		International		International		Local		International
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	$[illegible]	[illegible]	$[illegible]	[illegible]	$[illegible]	[illegible]	$[illegible]	[illegible]	$[illegible]	[illegible]	$[illegible]
Meals and Incidentals	[illegible]	Meals and Incidentals	[illegible]	Meals and Incidentals	[illegible]	Meals and Incidentals	[illegible]	Meals and Incidentals	[illegible]	Meals and Incidentals	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ground Transport	[illegible]	Ground Transport	[illegible]	Ground Transport	[illegible]	Ground Transport	[illegible]	Ground Transport	[illegible]	Ground Transport	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	$2,391	[illegible]	$4,464	[illegible]	$4,125	[illegible]	$3,464	[illegible]	$4,012	[illegible]	$3,857
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SUBTOTAL:	$2,390.50	SUBTOTAL	$14,465.50	SUBTOTAL	$14,140.00	SUBTOTAL	$15,965.00	SUBTOTAL	$24,069.00	SUBTOTAL:	$7,714.00
TOTAL TRAVEL BUDGET:	$2,391	TOTAL TRAVEL BUDGET	$14,464	TOTAL TRAVEL BUDGET	$14,140	TOTAL TRAVEL BUDGET	$15,965	TOTAL TRAVEL BUDGET	$24,069	TOTAL TRAVEL BUDGET:	$7,714
					GRAND TOTAL						
					$76,158						

USG Per Diem Rates			
Location	Maximum Lodging	M&IE	Total
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

Metabiota Inc.
Contract No: HDTRA1-14-C-0104
TD: 0004

Content: Updated Budget Narrative Supporting TD 0004 "DTRA/CBEP Implementation of an Epigenetics and Genomics of Infectious Diseases Workshop in the Middle East South Asia Region"

Budget Narrative

Period of Performance

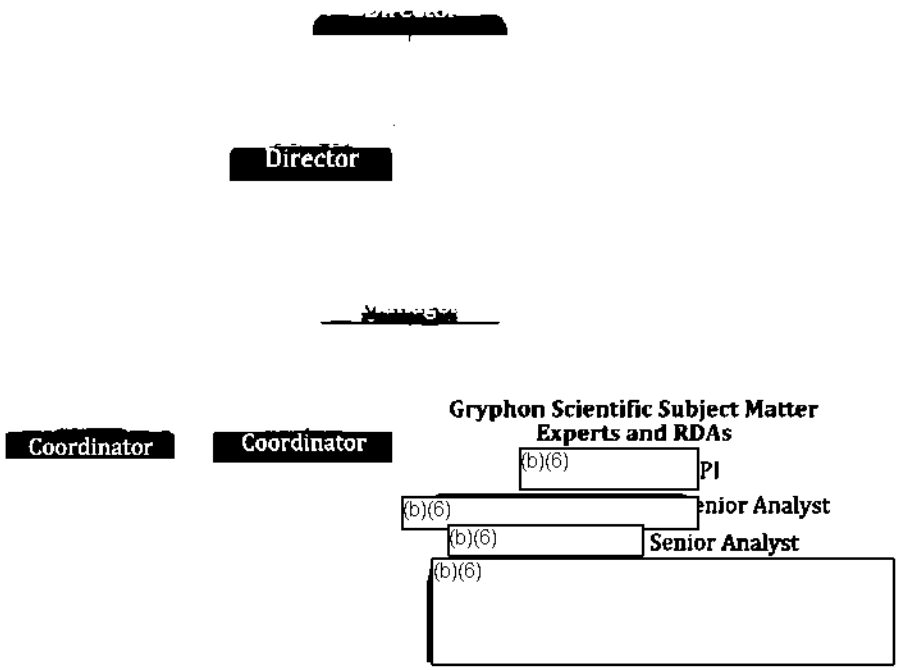
The Period of Performance for this effort is June 1, 2015 to November 30, 2015.

Labor

Metabiota will employ its existing organizational leadership to interface with the Regional Science Manager, and Regional Program Manager, as needed to direct the operational and administrative support required to ensure implementation of the Epigenetics and Genomics Workshop. Our Program Manager, (b)(4); (b)(6) will oversee workshop administration, with the support of a project coordinator, travel coordinator, and subject matter experts to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the Program Manager, Project Coordinator, Travel Coordinator and a team of Subject Matter Experts that will be tasked with specific assignments to support the development and implementation of the workshop based on their administrative and scientific expertise. This team of experts will ensure the overall project management and tasks associated with the workshop are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.

This material shall not be disclosed outside the U.S Government and shall not be duplicated, used or disclosed in a whole or in part for any purpose other than to evaluate this material. If, however, a contract is awarded to this offeror as a result of- or in connection with- the submission of this material, the U.S Government shall have the right to duplicate, use or disclose the data to the extent provided in the resulting contract. This restriction does not limit the U.S Government's right to use information contained in this material if it is obtained from another source without restriction.



Costs for direct labor to support this activity is required for the following personnel:

Metabiota Program Manager, (b)(6)
LOE: 300 Hours
(b)(6) will be engaged on this project to achieve the overall operational objectives required to implement the workshop. She will be directly responsible for the management of the project completing the following tasks: overseeing project personnel in the execution of requirements and implementing the workshop, managing project deliverables, including submission of requirements to CBEP, tracking project requirements, interacting and reporting to CBEP personnel providing project visibility and coordination, financial monitoring, coordination and management of Gryphon Scientific personnel, and coordination with RSS to ensure deliverables are met and workshop is implemented. She will ensure overall logistical management of the event, and make sure the project is on track and completed within scope and budget. She will travel to Jordan in support of the workshop to provide on the ground coordination with CLS, Gryphon, and RSS to ensure smooth implementation of the event.

Research and Data Analysts

Metabiota Project Coordinator, (b)(6)
LOE: 396 Hours
(b)(6) will be engaged on this project as the day-to-day coordinator for this effort reporting directly to the Program Manager. She will ensure the project stays on schedule by routinely tracking project phases and ensuring CBEP deadlines are being met in support of the

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Program Manager, (b)(6) will assist in coordination of the workshop, to include assisting in management of deliverables, logistics, and tracking of project requirements. She will coordinate completion and submission of CBEP CDRLs to include travel requirements, technical documents for PAO approval, and coordinate conference and participant information for submission and logistical coordination with CLS. She will communicate routinely with Gryphon Scientific personnel to ensure the project is being implemented according to the timeline and requirements. (b)(6) will participate in weekly calls with RSS, Gryphon and Metabiota team members, providing agendas, minutes, and scheduling follow up calls and tasks, as required. She will travel to Jordan in support of the workshop to provide on the ground coordination with CLS, Gryphon, and RSS to ensure smooth implementation of the event.

Gryphon Junior Analyst, (b)(6)
LOE: 115 Hours
(b)(6) will be engaged on this project as a Junior Analyst providing coordination and technical support to the Gryphon Senior Scientific team. Jacqueline will assist in the development of the workshop abstract book. She will assist the PI with the scientific advisory group and their reviews of submitted abstracts and travel applications. (b)(6) will copyedit all deliverables before they are finalized.

Gryphon Contract Administrator, (b)(6)
LOE: 95 Hours
The contract administrator will be engaged to support completion of the Metabiota and Gryphon subcontract governing this work. They will be involved in preparing a Memorandum of Understanding with RSS to support this engagement. In addition, they will work with the PI to ensure submission of all required financial and narrative progress reports required for the project, to include labor reporting requirements and other assigned CDRLs.

Subject Matter Experts

Gryphon Principal Investigator (b)(6)
Subject Matter Expert III
LOE: 500 Hours
(b)(6) will be responsible for overseeing the project and it's implementation as the leading expert from Gryphon Scientific, coordinating directly with Metabiota and RSS. She will manage all administrative and technical requirements for Gryphon to include, the project budget and ensuring successful completion of all project activities. She will be the primary point of contact for Gryphon and will work with the Gryphon Scientific financial staff to ensure all reporting requirements are completed on time. She will work with Metabiota, the scientific advisory group, and the RSS working group, to help develop the agenda for the scientific workshop, oversee the development of the workshop abstract book, and completion of the after action report. (b)(6) has a doctorate in genetics and molecular biology, conducted research on HIV and smallpox vaccines in mice and non-human primates.

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Gryphon Senior Analyst, (b)(6)
Subject Matter Expert I
LOE: 400 Hours

(b)(6) will be engaged on this project as a Senior Analyst and will work directly with (b)(6) to develop the abstract submission process, carry out the abstracts review and selection process, and oversee coordination of the logistics for the workshop in coordination with Metabiota and RSS personnel, including all necessary activities for the preparation and completion of the abstract book. She will assist in preparing the after action report and any publications that are generated by Gryphon from this event. (b)(6) is a biologist with experience conducting scientific peer review and planning scientific workshops.

Gryphon Senior Analyst, (b)(6)
Subject Matter Expert I
LOE: 225 Hours

(b)(6) will be engaged on this project as a Senior Analyst and will work directly with (b)(6) and (b)(6) develop the abstract submission process, carry out the abstracts review and selection process, and oversee coordination of the logistics for the workshop in coordination with Metabiota and RSS personnel, including all necessary activities for the preparation and completion of the abstract book. He will oversee implementation of the workshop website and will assist in preparing the after action report and any publications that are generated by Gryphon from this event. (b)(6) is a biologist with experience conducting scientific peer review and planning scientific workshops.

Additional costs for direct labor supporting the Deputy Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials

Materials and supplies are required to support costs for designing the workshop abstract book, which will be distributed at the workshop containing all abstracts of the presenters and participants. Once completed the abstract book will be submitted to CBEP for approval and sent to CLS for printing and shipping to the workshop.

A workshop website will be developed and maintained to provide information on and facilitate requirements in support of the workshop. The website will provide a forum for conference information, to include the agenda, schedule, abstract and poster submission requirements, selection process, and other key information necessary to effectively communicate conference information to the scientific community.

Other Direct Costs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for Gryphon personnel for the period of performance for this engagement. In addition, DBA insurance will be secured for Metabiota and Gryphon personnel traveling to Amman, Jordan in support of workshop coordination and implementation.

SOS Insurance is required for Metabiota personnel traveling to Amman, Jordan to support workshop coordination, and implementation to ensure they are covered for emergency and evacuation services while in country.

Subcontracts

A Subcontract will be issued to Gryphon Scientific to support their labor requirements on this engagement, as well as materials they will produce in support of this effort. Material costs included are for the publication design of the abstract book, and the website. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested fo(b)(6) Program Manager and Gautham Venugopalan, Gryphon Senior Analyst to travel to Amman, Jordan to conduct a scoping visit prior to conducting the workshop. The scoping visit is critical for meeting with RSS key personnel supporting this engagement to include members of the scientific board, and to ensure in-country logistical support services being provided by CLS in support of this event are captured and clearly communicated to support implementation, and to ensure all facility and hosting requirements are in place to facilitate this event.

Travel is requested to support Metabiota and Gryphon project personnel to Amman, Jordan to facilitate implementation of the workshop to include, hosting the event, overseeing engagement with the participants, and conducting of the plenary and scientific sessions. In addition, this time is required to oversee and support all logistical needs supporting the workshop in conjunction with RSS.

It is estimated that a total of 65 regional participants from throughout the Middle East will be selected to attend this event, as well as up to 35 speakers required for implementation of the plenary, and scientific sessions required for this event. With the volume of travel required on this engagement, and in accordance with the contract, Metabiota did not request travel funding in support of this, as it is planned that all this travel would be routed to CLS. Additional conference support requirements to facilitate participant attendance to include abstract and poster submission requirements, and translation services may be required by CLS to facilitate the overall engagement and implementation of the workshop.

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Conclusion

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP CENTCOM in the implementation of the DTRA/CBEP Implementation of an Epigenetics and Genomics of Infectious Diseases Workshop in the Middle East South Asia Region. Metabiota will ensure, through strong project management and risk mitigation that the training will be executed in an efficient and timely manner delivering a top quality course geared to support enhanced biosurveillance and biosafety efforts in the region.

Key Personnel

(b)(6) - Deputy Director

(b)(6) is the Deputy Director of the Academic Engagement Partnership (AEP) Program and an Internationally Certified Emergency Manager (CEM®) with 14 years of experience leading, managing, and consulting on the full spectrum of Counter Weapons of Mass Destruction (CWMD) operations and Chemical Biological Defense programs, as well as research and development in support of joint task forces, special operations forces, other government agencies, and the Department of Defense on the strategic, operations, and tactical leve(b)(6) a driven leader with a proven track record of building value with partners through the identification of capability gaps, and the development and validation of effective solutions to the unique challenges faced when dealing with Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) threats. In addition, he is well versed at risk analysis and management, strategic planning, policy analysis and political engagement.

(b)(6) - Program Manager

(b)(6) is the Southeast Asia and Middle East Regional Program Manager of the Academic Engagement Partnership (AEP) Program with over eight years experience as a global health project/program manager, with a focus in SE Asia regional activities, having lived and worked in Cambodia for four years supporting DoD efforts in the region. Since joining Metabiota in 2010, she has managed DTRA CBEP engagements in West and Central Africa, to include Ebola response efforts, as well as spending three years as the Program Manager on projects funded by USAID, AFHSC GEIS, BEP, NIH, USAMRIID, and HJF spanning all regions of Metabiota engagement.

(b)(6) - Research and Data Analyst

(b)(6) joined Metabiota in May after completing her MPA in International Management. She has five years experience working in international development, ranging in scope from a macro-level international development bank to micro-level grass roots development work. She worked

for two and a half years in rural Mozambique doing public health project management with the US Peace Corps, local community health clinics, and international donors.

(b)(6) – Subject Matter Expert III

joined Gryphon Scientific in 2015. Her focus areas are biotechnology, security, health security, and science policy. (b)(6) work addresses biological and chemical defense issues through active involvement of the scientific and security communities, international science engagement, and evaluation of multidisciplinary science and technologies. She has experience in: evaluating policy initiatives and produced policy and program option papers; developing educational case studies through which scientists can learn about how to analyze risk in their own research; designing and administering table top exercises to promote greater knowledge of how risks and threats are addressed in the scientific and law enforcement communities and to identify potential gaps in the system; and conducting technology evaluations in which she developed risk and benefit scenarios and risk assessment frameworks. She has developed innovative programs to promote trust and communication between the FBI and the academic science community in the United States, and to encourage cooperation between U.S. and Middle Eastern and North African scientists. In 2012 (b)(6) worked with the Presidential Commission for the Study of Bioethical Issues for seven months. There, she was the staff lead on the Commission's evaluation of the ethical issues associated with pediatric medical countermeasures research. Immediately prior to joining Gryphon Scientific (b)(6) spent nine years at the American Association for the Advancement of Science Center for Science, Technology and Security Policy. (b)(6) conducted her post-doctoral research at the Emory Vaccine Center where she conducted pre-clinical research and development of HIV and smallpox vaccines. (b)(6) received her Ph.D. in genetics and molecular biology at Emory University and B.S. in molecular genetics at The Ohio State University.

(b)(6) – Subject Matter Expert I

(b)(6) joins Gryphon Scientific as a Senior Analyst after completing a Science and Technology Policy Fellowship with the American Association for the Advancement of Science (AAAS) at the Department of Health and Human Services. At HHS (b)(6) worked in the Office of the Assistant Secretary for Preparedness and Response in the Division of International Health Security. Teresa led projects with international partners and coordinated with U.S. agencies to support multilateral initiatives designed to enhance domestic and international health security. As a fellow, she oversaw a cooperative agreement with the Gorgas Memorial Institute in Panama to enhance its diagnostic capacity for pandemic influenza and biological threat agents. Teresa completed a postdoctoral fellowship at Stanford University, where she studied the involvement of microRNAs in translation control and mRNA turnover during Hepatitis C virus infection. Her research was supported by a Ruth L. Kirschstein fellowship from NIH. Teresa holds a PhD from the University of Wisconsin-Madison in Cellular and Molecular Biology. As a graduate student, she revealed the molecular details of a long range interaction within Hepatitis B viral RNA crucial for viral replication. She received her Bachelor's degree in Chemistry and Biology from the College of St. Benedict/St. John's

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University in Minnesota. Fluent in Malayalam and conversant in Hindi, Teresa led a study-abroad program in India on behalf of the University of Wisconsin-Madison.

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OPTION YEAR - SOW Section 4.3, Task 3 Implementation of Distance Learning on the

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: June 10, 2015
PERIOD OF PERFORMANCE: June 2015 - April 2017
PROJECT: Iraq Veterinary Course

	oaded based on rate card).	**LOE Hours**		**Amount**
	(b)(4); (b)(6)	418	$	(b)(4); (b)(6)
CLIN 1002		442	$	
CLIN 1002		480	$	
CLIN 1002		640	$	
CLIN 1002		40	$	
	Total Labor Costs (fully loaded):	**2,020**		
	OTHER DIRECT COSTS *(fully loaded).*			
	CLIN 1003 Materials		$	22,645.31
	CLIN 1004 ODCs		$	13,385.72
	CLIN 1005 Travel		$	60,828.00
	Total Other Direct Costs (fully loaded):			(b)(4); (b)(6)
	Total:			

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10-Jun-15
Project Iraq Veterinary Course
Period of Performance: June 2015 - April 2017

CLIN No.	Labor Description	Cost	Total Hours	Total Billable Amount $
CLIN 1002		(b)(4); (b)(6)	418	(b)(4); (b)(6)
CLIN 1002			442	
CLIN 1002			480	
CLIN 1002			640	
CLIN 1002			40	

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10-Jun-15
Project Iraq Veterinary Course
Period of Performance: June 2015 - April 2017

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1003	necropsy kits	$ [redacted]	30	4,200
CLIN 1003	Pathologic Basis of Veterinary Disease, 5e	$	30	3,059
CLIN 1003	USB internet devices	$	30	1,008
CLIN 1003	Prepaid internet access cards (6GB of data over 3 months)	$	180	8,314
CLIN 1003	In-country communications, per week	$	3	3,000
CLIN 1003	Skype licenses (per month per user)	$	2.25	281
CLIN 1003	Chickens, slaughtered.	$	30	450
CLIN 1003	Goats, slaughtered.	$	6	1,200
		Sub Total		21,512

(b)(4); (b)(6)

(b)(4); (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10-Jun-15
Project Iraq Veterinary Course
Period of Performance: June 2015 - April 2017

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1004	DBA Insurance	$ 6,130.97	1	6,131
CLIN 1004	SOS Insurance	$ 4,120.00	1	4,120
		Sub-Total		10,251
				(b)(4); (b)(6)

TRAVEL ESTIMATE COST

Contract Name: Academic Engagement Partnership Program
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10 Jun 15
Proposal: Iraq Veterinary Course
Period of Performance: June 2015 - April 2017

	International
Traveler:	Program Manager
Departure Location:	Washington, DC
Destination:	Irbid, Jordan
Purpose:	in-person training event
Airfare	$2,108
Service fee per airfare	$13.80
Lodging	$1,822.80
Meals - Incidentals	$735.00
Meals - Incidentals (First and Last Travel Days)	$157.50
Ground Transport to from US airport	$180.00
Ground Transport to from Amman Airport	$200.00
Daily Ground Transport to from S&T Fac	$110.00
Incidentals (travel)	$181.50
# of Federal Workers	1
# of Days	9
Total Per Trip	$5,179
Number of trips	3
Number of persons	1
SUBTOTAL:	$15,537
TOTAL TRAVEL BUDGET:	$15,537

	International
Traveler:	Trainee #1
Departure Location:	Athens, GA
Destination:	Irbid, Jordan
Purpose:	Implement in-person training event
Airfare	$1,500.00
Service Fee per airfare	$13.00
Lodging	$1,022.00
Meals - Incidentals	$735.00
Meals - Incidentals (First and Last Travel Days)	$157.50
Ground Transport to from US airport	$180.00
Ground Transport to from Amman Airport	$200.00
Daily Ground Transport to from S&T Fac	$110.00
Incidentals (travel)	$181.50
# of Federal Workers	1
# of Days	9
Total Per Trip	$4,779
Number of trips	3
Number of persons	1
SUBTOTAL	$14,337
TOTAL TRAVEL BUDGET:	$14,337

	International
Traveler:	Trainee #2
Departure Location:	Washington, DC
Destination:	Irbid, Jordan
Purpose:	Implement in-person training event
Airfare	$2,100.00
Service Fee per airfare	$13.00
Lodging	$1,822.80
Meals - Incidentals	$735.00
Meals - Incidentals (First and Last Travel Days)	$157.50
Ground Transport to from Airport	$180.00
Ground Transport to from Amman Airport	$200.00
Daily Ground Transport to from S&T Fac	$110.00
Incidentals (travel)	$181.50
# of Federal Workers	1
# of Days	9
Total Per Trip	$5,159
Number of trips	3
Number of persons	1
SUBTOTAL	$15,477.00
TOTAL TRAVEL BUDGET:	$15,477

	Local
Traveler(s):	Trainee #1
Departure Location:	Washington, DC
Destination:	Irbid, Jordan
Purpose:	Implement in-person training event
Airfare	$2,100.00
Service fee per airfare	$13.00
Lodging	$1,022.00
Meals - Incidentals	$735.00
Meals - Incidentals (First and Last Travel Days)	$157.50
Ground Transport to from US airport	$180.00
Ground Transport to from Amman Airport	$200.00
Daily Ground Transport to from S&T Fac	$110.00
Incidentals (travel)	$181.50
# of Federal Workers	1
# of Days	9
Total Per Trip	$5,159
Number of trips	3
Number of persons	1
SUBTOTAL	$15,477.00
TOTAL TRAVEL BUDGET:	$15,477

GRAND TOTAL
$60,828

USG Foreign Per Diem Rates			
Location	Maximum Lodging	M&IE	Total
Irbid, Jordan	146	105	251

METABIOTA

June 10, 2015,

(b)(6) Contracting Officers Representative J3CTB
Defense Threat Reduction Agency (DTRA)
8725 John J Kingman Road, #6201
Fort Belvoir, VA 22060

Sent via email to (b)(6)
CC: (b)(6)
(b)(6)

RE: HDTRA1-14-C-0104 Technical Direction for the Implementation of Distance Learning on the Basics of Passive Surveillance for Animal Diseases in Iraq, with a Special Emphasis on Recognition of High Consequence Pathogens

Dea (b)(6)

Metabiota, Inc. (Metabiota) is pleased to present the attached proposal in response to the above referenced Letter of Technical sent by DTRA on May 26, 2015.

Metabiota intends to engage The University of Georgia Research Foundation Inc. to assist with Implementation and completion of this training.

For the effort described, Metabiota estimates the Rough Order of Magnitude (ROM) to be **440,156** for a Period of Performance of June 01, 2015 to April 30, 2017. The detail budget is included. This proposal remains valid until September 30, 2015.

Please feel free to contad (b)(6) with questions or concerns at
(b)(6)

Sincerely,

(b)(6)

Contracts Manager

Metabiota's Technical and Cost Proposal

"DTRA/CBEP AEP Clinician Training"

Technical Direction Number: TD-008
Contract Number: HDTRA1-14-C-0104
CAGE Code: 56SP4
DUNS number: 828131156

Small US Business
Metabiota, Inc.

METABIOTA

One Sutter Street, Suite 600 San Francisco, CA 94104

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Program Operati
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DTRA CBEP Points of Contact
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Phone (b)(6)
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Phone (b)(6)
Email

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Training Reinforcement: Mentoring and Physical Improvement to Improve Care and Notification Process

Assessments Before and After Training

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Executive Summary

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) has tasked Metabiota, Inc. through the Academic Engagement Partnership (AEP) contract vehicle with developing and delivering clinician training in Uganda. These events support accurate and rapid identification of infectious disease agents, which is an integral component of the disease reporting process and paramount for mitigation of epidemics. This initiative will support the preparedness and capabilities of clinical professionals operating in Uganda to reduce the threat of spreading causative agents of potentially dangerous diseases.

Detailed herein, the Metabiota team endeavors to fulfill this requirement through execution of continued training implementation of health practitioners in Uganda. Through the implementation of coherent training methodologies that are driven by on-the-ground experience and decades of expertise, as well as follow on engagements and deliverables, Metabiota is well positioned to support training activities and scientific engagement in the USAFRICOM's region of responsibility.

Project Overview

Introduction

Through AEP Technical Direction TD-008, DTRA CBEP tasked the Metabiota team to execute Clinician Training in Uganda. The overarching goal of the work outlined in this proposal is to bolster existing public health capacity in the region. The trainings outlined below will serve to improve the host countries abilities to detect, diagnose and report events with the potential to cause public health emergencies of international concern (PHEIC), especially those associated with U.S. Select Agents and Toxins, in accordance with World Health Organization (WHO) International Health Regulations 2005 (IHR 2005) and WHO African Regional Office (AFRO) / U.S. Centers for Disease Control (CDC) Integrated Disease Surveillance and Response (IDSR) systems.

District-level hospital workers require training in infectious disease detection and diagnosis in order to provide early notification of a potential PHEIC. District hospitals provide a substantial proportion of the initial emergency care and ongoing inpatient management of patients with infectious diseases. Strengthening the capacity of district clinicians to perform a differential diagnosis, and to use appropriate and available laboratory tests, will improve early reporting of diseases and, potentially, mitigate the risk of an epidemic.

Background

The Metabiota team understands that the US Department of Defense (DoD) initiated CBEP through DTRA in order to reduce the threat of biological outbreaks. The team further recognizes that to achieve its mission, CBEP works collaboratively with partner nations, U.S. Government agencies, and the international community to enhance disease surveillance

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capabilities; develop human resource expertise in public and animal health, promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner. Through the Academic Engagement Partnership (AEP) Program, Metabiota aims to support the CBEP mission of reducing the potential impact of biological threats through enhanced biological safety and security, awareness of biological risks, and knowledge related to biological pathogens.

In support of this approach, the Metabiota team, along with its partners, intends to administer high-value trainings that will support strategic CBEP objectives by strengthening the region's capacity to diagnose and detect diseases; thereby enhancing local management and mitigation of infectious disease events. The team's on-the-ground experience and decades of expertise makes us well positioned to support the implementation of these trainings and all of the associated activities, as well as scientific engagement in the AFRICOM's area of responsibility.

Purpose

The purpose of the Clinician Training requirement is to enhance the ability of Ugandan clinician's and health workers to recognize key diseases early, report them according to district and national protocols, and rapidly use laboratory support, as available, to confirm possible diagnoses. It is expected that this will help improve the timeliness of identification of unusual diseases and, ultimately, enable more rapid and better responses to disease outbreaks. Targeted training materials supported by on-site clinical mentoring, will assist in disease identification and reporting.

To accomplish this purpose, DTRA CBEP, through the AEP contract, will engage Metabiota and it's cadre of Subject Matter Experts (SMEs), Qualified Trainers (QTs), as well as project partners the IMAI/IMCI Alliance and Walimu, to implement the clinician training events in Uganda.

Objective

Metabiota will implement training activities in Uganda to bolster clinical capabilities for responding to and providing care for patients exposed to especially dangerous pathogens (EDP). Ensuring proper protocols are employed to manage potentially infected patients will ultimately mitigate the threat of further disease transmission. Investing in preventative clinical care capabilities will, ultimately, save lives and prevent potentially catastrophic economic outcomes, which can be associated with epidemics.

The project, initially approved in February 2015, included several objectives that have been completed (e.g., Objectives 1-3). This included adaptation of generic training materials and conducting gap analyses. All training materials previously provided to DTRA have been PAO approved, and have served as the foundation for implementation of training activities in Uganda (Objective 4).

Generic training materials provided via **Objective 1** serve as the foundation for training in all countries to be trained. However, it is recognized that each country may have unique needs

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related to endemic threats and their respective health care systems. **Objective 2** requires a gap analysis be performed, which will characterize the existing health care infrastructure and identify endemic threats, including pathogens on the U.S. Select Agent list and those of concern to overall public health. Leveraging this information, a country-specific adaptation (**Objective 3**) of the WHO AFRO/CDC IDSR, which fulfills IHR requirements for disease reporting, will be developed and, ultimately, implemented (**Objective 4**).

Threat Reduction Outcomes

The proposed project seeks to improve health care infrastructure within Uganda. Specifically, the clinician training program will train in-country health workers to recognize, respond to, and report pathogens, which could cause epidemics and result in significant financial burden. Early identification and response will mitigate potential loss of human life and economic burden.

In addition to improving response to general diseases of concern to the host country, these trainings will provide information relevant to preparedness and response to potential VHF (Viral Hemorrhagic Fever) exposure, including Ebola, Lassa fever, and Marburg viruses, all of which are EDPs (Especially Dangerous Pathogens).

Increased biosafety acumen when working with pathogens, particularly EDPs such as VHFs, is a cornerstone of CBEP engagement. As part of the VHF training, health workers will be trained to properly implement biosafety protocols, including dawning and doffing personal protective equipment (PPE), as required by the agent in question. All engaged countries will be trained to follow internationally recognized reporting measures. In addition, as part of the materials adaptation process, gap analyses of the host countries health care system, including previously implemented trainings, will be performed. The gap analyses will be presented as reports, and information presented within them will help all stakeholders (e.g., USG and host country ministries) understand potential areas of future engagement to further bolster the host countries capabilities.

Management Approach

Introduction

Metabiota will continue to employ its existing organizational leadership to interface with the Regional Science Manager, and Country Manager, as needed to direct the operational and administrative support required to ensure successful and timely execution of all Clinician Training events in Africa. Our Program Manager will maintain oversight of training execution, with the support of a travel coordinator, Research Collaborators and Subject Matter Experts to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Project Team Structure

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the Program Manager, Project Coordinator, Travel Coordinator and the Teams Research Collaborators and Subject Matter Experts that will be tasked with specific

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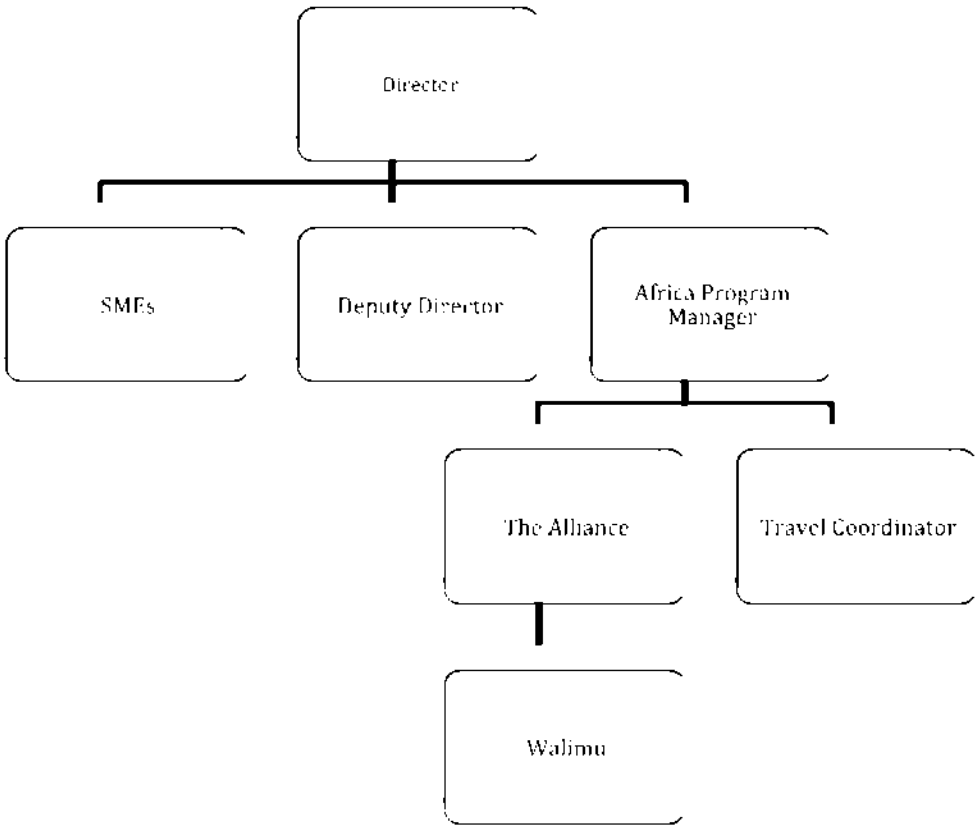
assignments to support the development and implementation of training events based on their administrative and scientific expertise. This team includes experts from the Alliance and in-country implementer, Walimu. The Alliance and Walimu will utilize their in-country expertise and engagement with local stakeholders to ensure successful training events. Our team of experts will maintain the overall project management and tasks associated with the training are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.



Execution

The project management team will continue to maintain oversight and implementation of the project at all times and will ensure rapid execution of all training events, tracking objectives to ensure the project stays on schedule to complete the training exercises. The project will be managed according to the continual implementation plan and will be course corrected, as needed, to ensure target end-goals are reached. The following tools will be used to guarantee the project schedule will be maintained:

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Project Administration:

1. Weekly team meetings and conference calls will continue to be held to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Coordinator and will include the PM, SME, Scientific Mentor and AEP leadership, as needed based on the requirements and stage of implementation.
2. Routine calls and communication via email will continue with CBEP regional leadership and Metabiota to provide routine status updates and ensure training implementation.

Project Reporting:

1. Weekly status reports will continue to be provided by the PM to senior Metabiota leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction, as needed to ensure training goals are met.

Monitoring and Controlling

1. Routine risk assessment will continue to be performed internally among the Metabiota project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with CBEP regional leadership to ensure the project remains on track and is implemented according to standard.
3. Routine oversight and coordination will be maintained to ensure CLS is performing in-country logistical requirements, when necessary, to ensure successful execution of the training.

Completion

Maintaining a focused project schedule with routine meetings and communication with CBEP regional leadership allowing for continued coordination, while maintaining targeted objectives, Metabiota will drive the project to completion through the determined project end-date. Metabiota will provide the required deliverables of clinician training trip reports. Metabiota believes that the experience and management it will bring to this project, in collaboration with CBEP will guarantee success.

Technical Approach

Introduction

To facilitate effective training of health workers in Metabiota, and its partners the Alliance and Walimu, will employ the IMAI training materials, which are comprised of the following: 1) WHO IMAI District Clinician Manual (DCM), 2) pocket guidebook, and 3) Quick Check wall charts. The intended purpose of these materials is three-fold: to improve district hospital clinical management and surveillance of key notifiable diseases by the involvement and preparation of clinical teams for disease recognition; implement sustainable practices for case management of

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severely ill patients; and to ensure that proper reporting procedures are in place, which align with international standards (IHR).

Of particular importance, the training materials include the new WHO IMAI DCM, which outlines and provides reference for 1) triage training, 2) emergency treatments, 3) management of severely ill patients of any etiology, and 4) the clinician's role in surveillance of diseases with epidemic potential (called the Quick Check+ training curriculum). On-site clinical mentoring and quality improvement activities, as well as ongoing monitoring and on-site evaluations will further support training.

In addition to providing a simplified algorithm for emergency triage, assessment and treatment, and the ongoing management of severely ill adolescent and adult patients, the evidence-based WHO manual integrates the identification of notifiable, epidemic-prone diseases within a case management approach based on support for clinical reasoning using differential diagnosis. The manual's differential diagnosis tables include the important notifiable diseases with case definitions and a chapter on disease reporting, which lists all IDSR notifiable diseases and indicates the section of the IMAI DCM where they can be found. The disease-specific sections focus primarily on case definition, diagnosis based on clinical and laboratory features, guidance for specific empirical treatment(s) and supportive care, assessment of response to treatment, and instructions on when to report. Importantly, the IMAI septic shock guidelines have been incorporated into the viral haemorrhagic fever (VHF) pocket guides, which will be used in VHF epidemic-prone areas of East and West Africa.

Derived from the IMAI DCM product is a participatory training course, Quick Check+, which addresses emergency triage and treatments for adults. This course trains the clinical teams to support the triage, emergency management, and infection prevention and control of severely ill adolescent and adult patients, who present with severe acute respiratory infections, VHFs, or other communicable diseases. The short disease surveillance course and reporting training module, used within the clinical training course, has the advantage of effectively engaging busy clinicians and hospital managers for disease reporting and has been very well received in this context. Training all relevant cadres (nurses, managers, and auxiliary staff, in addition to district clinicians such as medical doctors, general practitioners or other senior clinical cadres) within the district hospital helps ensure implementation after training utilizing the following:

- Engaging hospital managers who are key in planning and supporting the budget and organization requirements for improved care and reporting
- Recognizing the important role of senior clinical nurses in providing care during most hours of the day
- Supporting the role of auxiliaries in their contacts with patients, triage, and community linkages

The interventions will be implemented through the following mechanisms:

- Provision of country-adapted guidelines (country-adapted versions of the WHO IMAI DCM and Hospital Care for Children) to participating healthcare workers;

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- In-service training;
- Mentoring/quality improvement interventions on a regular basis after training, with mentors able to address both pediatric and adult care, infection control, and disease surveillance issues.

The approach encompasses a combination of two training activities for the participatory Quick Check+ training for clinical teams: a four-hospital clinical team training and in-hospital training for the entire clinical staff in a single hospital. Importantly, integration of these trainings will be done in a manner that will not overwhelm recipients and in a way that will be sustainable by health care systems within respective countries. In addition to implementation of trainings a follow-up mentoring schedule will be determined based on the needs of a given country.

Training Implementation

Since the initiation of this effort in early 2015, eleven training events and mentoring visits have occurred that include regional trainings of up to 4 hospital teams, and Train-the-Trainer activities. The average training has encompassed 33 participants and has been comprised of clinicians, nurses, and hospital administrators. Regions within Uganda that have hosted these trainings include Hoima Regional Referral Hospital, Mubende Regional Referral Hospital, and Kiboga General Hospital.

An additional 25 training events utilizing the IMAI Quick Check+ materials have been scheduled throughout Phase 1 (11 events) and Phase 2 (14 events) periods of performance (Table 1), encompassing Regional, In-hospital, and Train the Trainer (TOT) activities. Many of the Regional trainings run concurrently encompassing a pre-defined Region One and Region Two cohort of participants.

The Regional and In-Hospital courses will be conducted in several classrooms for managers, district clinicians, nurses and auxiliaries, with the clinical team from each hospital. Practical sessions will include putting on personal protection equipment, case scenarios with expert patient-trainers, and facilitation skills. During the initial training event, potential future trainers will be identified based upon their test scores and competency in the practical sessions. These participants will receive Train the Trainer instruction during a unique training event. The overall goal of the TOT training is to increase the pool of competent hospital and regional facilitators in which the Quick Check+ course may be independently provided, thus improving the region's capacity for disease detection and treatment.

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Table 1. Updated Training Schedule

Phase	Start Date	End Date	Activity (ToT, Regional, or In-Hospital)	Region	Number of Hospitals to assess/train	Location	Facilities
1	20-May-15	23-May-15	ToT	Arua	NA	Arua RRH	NA
1	25-May-15	29-May-15	Regional	Arua	5 hospitals	Arua RRH	Arua; Kuluva Church of Uganda; Holy Family Hospital Nyapea; Angal St. Luke's; Nebbi
1	8-Jun-15	12-Jun-15	Regional	Arua	4 hospitals	Arua RRH	St Joseph's Maracha; Yumbe; Moyo; Adjumani
1	6-Jul-15	10-Jul-15	In-hospital	Rwenzori	1 hospital	Fort Portal RRH	Fort Portal RRH
1	23-Jul-15	25-Jul-15	ToT	Kabale	NA	Kabale RRH	NA
1	27-Jul-15	31-Jul-15	Regional	Kabale	4 hospitals	Kabale RRH	Kabale RRH; Rugarama; Kambuga; Bwindi
1	27-Jul-15	31-Jul-15	Regional	Kabale	4 hospitals	Kabale RRH	Kisoro; Mutolere; Kisiiza; Nyakibale
1	6-Aug-15	8-Aug-15	ToT	Mbarara	NA	Mbarara RRH	NA
1	10-Aug-15	14-Aug-15	Regional	Mbarara	5 hospitals	Mbarara RRH	Mbarara RRH; Ibanda; Itojo; Ishaka Adventist; Mayanja Memorial
1	10-Aug-15	14-Aug-15	Regional	Mbarara	4 hospitals	Mbarara RRH	Comboni; Kitagata; Ruharo Mission; Rushere Community
1	27-Aug-15	29-Aug-15	ToT	Gulu	NA	Gulu RRH	NA
2	31-Aug-15	4-Sep-15	Regional	Gulu	4 hospitals	Gulu RRH	Gulu RRH; Kalongo; Lacor; Gulu Military
2	31-Aug-15	4-Sep-15	Regional	Gulu	3 hospitals, 1 HC IVs	Gulu RRH	Kitgum; St. Joseph's; Anaka
2	24-Sep-15	26-Sep-15	ToT	Masaka	NA	Masaka RRH	NA
2	28-Sep-15	2-Oct-15	Regional	Masaka	4 hospitals	Masaka RRH	Masaka RRH; Villa Maria; Lyantonde; Kitovu
2	28-Sep-15	2-Oct-15	Regional	Masaka	2 hospitals, 2 HC IVs	Masaka RRH	Rakai; Kalizo; Kalangala HC IV; Ntuusi HC IV
2	22-Oct-15	24-Oct-15	ToT	Lira	NA	Lira RRH	NA
2	26-Oct	30-Oct	Regional	Lira	4 Hospitals	Lira RRH	Lira RRH; Amai; Apac; Aber
2	26-Oct	30-Oct	Regional	Lira	4 HC IVs	Lira RRH	Amach HC IV; Dokolo HC IV; Aboke HC IV; Orum HC IV
2	9-Nov	13-Nov	In-hospital	Kabale	1 hospital	Kabale RRH	Kabale RRH
2	26-Nov	28-Nov	ToT	Kampala	NA	Naguru RRH	NA
2	30-Nov	4-Dec	Regional	Kampala	5 hospitals	Naguru RRH	Kayunga; Nkokonjeru; Nkozi; Bombo
2	30-Nov	4-Dec	Regional	Kampala	5 hospitals	Naguru RRH	Naggalama; Nakaseke; Nakasongola; Entebbe
2	11-Jan	15-Jan	In-hospital	Mbarara	1 hospital	Mbarara RRH	Mbarara RRH
2	1-Feb	5-Feb	In-hospital	Gulu	1 hospital	Gulu RRH	Gulu RRH

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Communications Protocols

Metabiota will maintain open communications with international collaborators necessary for implementing the training, to include regional partners facilitating the training engagement and logistics. In addition, Metabiota will maintain routine communication with CBEP to ensure they have full visibility on the training engagement, status and process of execution.

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Timeline

- Trainings
  - ToT Arua
  - Regional Arua
  - Regional Arua
  - In-hospital Rwenzori
  - ToT Kabale
  - Regional Kabale
  - Regional Kabale
  - ToT Mbarara
  - Regional Mbarara
  - Regional Mbarara
  - ToT Gulu
  - Regional Gulu
  - Regional Gulu
  - ToT Masaka
  - Regional Masaka
  - Regional Masaka
  - ToT Lira
  - Regional Lira
  - Regional Lira
  - In-hospital Kabale
  - ToT Kampala
  - Regional Kampala
  - Regional Kampala
  - In-hospital Mbarara
  - In-hospital Gulu
- Reporting
  - June
  - July
  - August
  - September
  - October
  - November
  - December
  - January
  - February
  - Deliverables (TEPs and TTRs)

Deliverables

- Submission of the TEP, Travel Authorization and CCRs for each training event.
- Submission of TTRs (Travel Trip Reports) five days after training completion.

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Risk Management

In order to maintain course action and guarantee trainings that will reduce regional risk and forward CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed below:

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Cost						
Technical Direction NTE Ceiling	The current budget with events, travel, management, procurement, and execution will exceed the ceiling for the technical direction	5	4	(b)(4); (b)(6)	Metabiota will monitor costs and work diligently to seek out the lowest costs possible for procurement and travel, as well as mitigate extended labor hours during events	**Med-High**
Inadequate funds to meet end-state program objectives	Per the LOTD, Metabiota is only to propose activities through August. The Alliance has developed a comprehensive training schedule to ensure information is effectively dissiminated and institutionalized	4	4		A subsequent budget has been proposed, allowing the Alliance to continue trainings through February. Approval of this budget would allow for additional trainings and post training mentoring/evaluations to occur.	Med
Schedule						
Submission of CCRs and TEPs	The CCR deadline is 45 days prior to travel and the TEP deadline is 60 days prior	2	5	**Med-High**	Team shall adhere to all State Department travel safety guidelines for each region.	(b)(4); (b)(6)
Project Coordination	Team dispersed over several time zones engaged in execution of training and mentoring events. Many events occurring per month.	3	4	**Med-High**	Hold routine calls with regional and country leadership, and collaborators, as needed to understand and implement technical requirements and ensure communication across the training events. Continually capture lessons learned to build upon effective communications.	
Performance						

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Safety and Security	Regions of Africa are considered a high threat for terrorism. Crime is a consistent threat.	3	5	**Med-High**	Team shall adhere to all State Department travel safety guidelines for each region.	Med
Logistics Coordination	There are a lot of moving pieces to get all equipment, trainers, facilities, and trainees in position to execute training on the required timeline	3	4	**Med-High**	Communicate with CLS frequently to ensure in-country support is achieved, with local vendors.	(b)(4); (b)(6)
Unified Goals	Ministries of Health and Regional CDC and other NGOs differ in independent objectives and scope.	4	3	Med	Metabiota will engage all local Ministries and Organizations as groups and individually, to ensure communication and unification of objectives	
Participant Engagement	Several cultural differences exist in Africa that impacts their ability to engage. These differences include: expected remunerations, levels of accommodations, and gender disparities.	3	3	Med	Metabiota will research each country and region that activities will occur to determine presence of cultural uniquenesses, and strategies to overcome potential obstacles to participant attendance.	

Identifying and acknowledging the risks associated with not implementing this training, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix (above).

Cost Management

The Metabiota team and all partners will maintain an intense focus on cost management to ensure that the training is delivered at a reasonable cost to the government. Our team will ensure accurate and responsive financial reporting and will facilitate cost savings to the Government wherever possible. Metabiota will follow procurement regulations ensuring the best price is received under the time constraints using all means available.

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Budget Narrative

Period of Performance

The technical narrative captures activities required to effectively bolster capabilities of clinical personnel working in hospitals throughout Uganda. A period of performance has been proposed, which exceeds guidelines presented in AEP Letter of Technical Direction – 008 (TD-008). To this end, Metabiota has provided two budgets: 1) Captures activities defined by TD-008 (ending 31 August 2015) and 2) Optimal period of performance to accomplish end-state objectives (ending 28 February 2016)

Labor

The labor budget is focused on overall program management, material enhancements, training, mentoring and monitoring after training in an effort to expand improvements in case recognition, reporting, clinical care and infection control to more hospitals.

The Alliance brings a wealth of clinician training experience, which is specialized for working in the developing world. Given the relative newness of this organization and considering their origins were based out of non-governmental organizations, the Alliance will require assistance navigating aspects of coordination with the Prime contractor (Metabiota) and the Client (DTRA), including program management, scheduling of training activities, and Contract Data Requirements Lists (CDRL; Training Event Plans, Training Activity Reports, Monthly Progress Reports, etc.). To this end, Metabiota is proposing a program management team, consisting of Program and Training Managers, to continue supporting the Alliance with implementation of objectives in Uganda, as outlined within this scope of work.

Costs for direct labor to support this activity is required for the following personnel:

Program Manager(s): All aspects of program operations and administration, material adaptation, management of training, and implementation will be overseen by the Program Managers (PM) for Metabiota and the Alliance. The PM's will manage cost, schedule and performance of the program, including all required DTRA CBEP deliverables. In addition, PM's will manage all proposed activities with the Metabiota SMEs and the Alliance and its partner "Walimu". The PM's will work with Metabiota leadership and financial divisions to support the program's execution, and ensure that deliverables meet quality standards and requirements. The PM's will also develop best practices to improve program performance, and mine and coordinate resources to overall benefit this program.

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SME III, II and I: In preparation for training delivery and implementation in Africa, Metabiota SME's will work closely with (b)(6) nd her team, which include a cache of physicians with decades of experience operating within Africa, on collaborations and engagements with the MoH of Uganda. Periodically, Metabiota SMEs will also travel with the Alliance to Uganda for strategic planning activities and to participate in clinician training events. Our collective team of SME's will engage with the in-country subcontractors, "Walimu", for further competency building. Using their in-depth scientific and medical expertise, our SME's will review and provide input to training reports and materials.

Scientific Mentor: Assistance with overseeing the training events, mentoring local nationals, and providing recommendations for additional material content will be guided by the Scientific Mentor. As a leader in their field, the Scientific Mentor will support collaborations between groups both regionally and internationally. On mentoring visits, the Scientific Mentor will work with hospital staff and administrators to identify barriers to reporting notifiable conditions and to improve triage of severely ill patients and their effective case management.

Research and Data Analyst: Support of the programs' research, data entry and analysis will be provided by the Research and Data Analyst (RDA). The RDA will also support material and deliverable production and submissions. Organization of program documents, and archiving of materials will be an important responsibility of the RDA. The RDA will also assist in the management of internal and stakeholder meetings and execution.

Additional costs for direct labor supporting the Deputy Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Collectively, the aforementioned personnel will coordinate efforts to support the following activities:

Training and Mentoring After Training

A substantial number of training courses will be carried out using several approaches to training – a training for clinical teams from district hospitals (usually at the regional hospital), in-hospital training for larger hospitals. Several facilitator ToT short courses would be conducted for 3 days prior to clinical team training.

Training Reinforcement: Mentoring and Physical Improvement to Improve Care and Notification Process

Facilitators on mentoring visits will work with hospital staff and administrators to identify barriers to reporting notifiable conditions and to improve triage of severely ill patients and their effective case management. Examples of physical improvement which fit within a modest budget include adding signs and trolleys to improve patient flow in the emergency area, physical modifications to isolate infectious patients and locate severely ill patients near the nursing station, adding secured blood pressure cuffs and thermometers to identify severely ill

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patients, and tools such as clipboards and notice boards to ensure records are retained and organized for accurate reporting. Clinical training facilitators and Alliance staff will deliver the package of hospital improvements and ensure staff are capable of conducting case notification through the Uganda DHIS 2 health management information system.

Assessments Before and After Training

Facility assessments use a standardized questionnaire and surveyor observations, which complement the WHO/USAID SARA-H hospital assessment (which lacks questions on adult emergency triage and management of adult severely ill patients). In addition, an on-site clinical observer with data entry capacity will conduct case observation and observe success in reporting notifiable diseases and improving case management at the hospital before and after the training. Data will be collected on low-end smartphones and reported through Commcare, a tool used by the WHO, Brac, PATH and Partners in Health among others and supported by USAID and the UN and Gates Foundations, among others. The data is analyzed using the DHIS 2 software, a health management information system used by the MoH in Uganda.

The Alliance is committed to capacitating national staff and supporting their substantial role during in-country project management, as well as, utilizing them as a source of subject matter expertise and clinical facilitation and mentoring.

Materials

Communications

Cost for international cell phone services and data plans, airtime for project staff, laptop modems for country team laptops required to establish a reliable and stable Internet connection for reporting and other online needs, to include maintaining communication in remote areas.

Printing

Printing of all necessary training materials will be managed by Walimu and the Alliance.

Office and Medical Training Materials

These materials, supplies, and minor equipment will be used for implementing training, as well as programmatic coordination between management in the US and Kampala, Uganda. Minor office supplies include computer equipment such as laptops, docking stations, large screens, printers, scanner, photocopier, and software.

Each trained clinical team is provided with a pulse oximeter for individual clinical use/further training of other clinicians in hospital and a hospital-grade pulse oximeter with replaceable probes. No single piece of equipment exceeds $5,000.

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Training Event Logistics

Conference Services are required, as a venue is needed for practicum section of the training events to house participants, trainers, and additional Metabiota and CBEP personnel attending the event. Conference services will include on-site catering to facilitate completion of the training within an efficient timeframe.

To date, the Alliance managed all training costs, including venue, food, per diem, transportation (for facilitators and participants), training supplies, projectors, communication costs, and all printing needs as well as their shipment and clearance into country and delivery to the training venues, as allowed in the originally approved proposal. Metabiota will transition the training logistics costs to CLS for scheduled August trainings, as well as all Phase 2 trainings, if approved/awarded. However, June and July training events have been scheduled and approved, making the involvement of CLS challenging due to an extremely short suspense.

Shipping costs

All materials procured within the US will be shipped to Uganda via CLS' Single Shipper mechanism. Shipping costs for movement of training materials and supplies generated or procured in Uganda have been budgeted and will be managed by Metabiota, the Alliance, and Walimu.

Other Direct Costs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA costs were based (b)(6) he total compensation for all personnel when operating in Uganda.

Subcontracts

A Subcontract will be issued to the Alliance for time provided by their Trainers, as well as materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested for Metabiota and Alliance personnel to travel to and within Uganda to continue implementation of clinician training activities. Personnel will be providing programmatic, administrative, operational, and technical oversight (as described in the Labor Section of this narrative) to ensure trainings are implemented efficiently. Prior to execution of travel, a cost estimate will be provided to the AEP COR for review and approval.

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Metabiota will submit CLS forms requesting travel logistics support when, and if, it is required for project participants (e.g., Trainees).

Conclusion

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP AFRICOM in the implementation of the Africa Clinician Training. Metabiota will ensure, through strong project management and risk mitigation that the training will be executed in an efficient and timely manner delivering a top quality course geared to support enhanced biosurveillance and biosafety efforts in the region.

Team Metabiota Overview

Metabiota is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science, including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in 20 countries and offices in San Francisco, Washington, China, Canada, and Sierra Leone.

Metabiota currently supports a number of Cooperative Biological Engagement Program (CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. Metabiota's mission aligns well with CBEP and the entire Metabiota team is focused on supporting our USG Partners in reducing the risk of biological threats worldwide, and employs a collaborative and agile approach to biological risk reduction.

To ensure a successful event, Metabiota, in coordination with CBEP regional leadership and in country partners have built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGO) whose respective aims could impact CBEP objectives.

Metabiota will continue to engage the Alliance for implementation of the aforementioned objectives. The Alliance is a US based non-profit non-governmental organization (NGO), which includes institutions and individuals involved in the development, country adaptation,

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and implementation of the IMAI training materials, which aim to improve disease recognition, case management of severely ill patients, and reporting of notifiable diseases in coordination with WHO standards and regulations. The Alliance works closely with WHO headquarters, AFRO and the WHO in country offices, allowing for quick in roads and rapid implementation to most developing nations, including countries in East and West Africa. The Alliance already has an established footprint in Uganda and has support from the clinical services staff in the Ugandan Ministry of Health (MoH).

The Alliance includes Walimu, a US and Ugandan based NGO, which is currently supporting the implementation of training in Uganda. Walimu is a non-profit organization made up of physicians from Uganda and the US, working to improve medical are in Uganda. Their vision to empower Ugandan health officers to address local problems in innovative ways, which will lead to the transformation of medical training and patient care to meet international standards of excellence. As a collaborator with the Alliance, Walimu serves as a bridge to Alliance-related activities and their execution in clinical services.

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Table 2 – Summary of Program Elements

Program Element	Program Tasks	Resources Required	Key Milestones and Deliverables	Projected Timeline
Continued Coordination	• Continue overall coordination with CBEP • Coordinate with the Inter-Agency Health Team at the US Embassy, Kampala, and any other relevant stakeholders Ongoing coordination with CBEP and Inter-Agency Health team prior to, during and after each training	• Program Manager • SME III • SME I • Research and Data Analyst	• Submission of CCRs • Obtain confirmation from CBEP, and other key stakeholders on proposed training dates • Submission of TEPs and TTRs	Ongoing 3-6 months prior to each training event
Plan Training Event	• Procure materials • Coordinate logistics (facilities, materials, participants) based on guidance from CBEP and Inter-Agency Health Team • Coordinate travel for trainers and trainees as required • Develop of training event plan	• Scientific Mentor • Program Manager • SME I • SME II • SME III	• Confirmation of logistics for trainers and trainees • Submission of finalized training event plans prior to implementation of each training.	1-3 months prior to each training event
Training Implementation	• Ensure trainers are equipped with all necessary materials to conduct trainings • Trainers travel to designated training site • Conduct training based on the finalized training event plan • Trainers return from training event	• Scientific Mentor • Program Manager • SME I • SME II • SME III	• Regional, initial, and ToT (Train the Trainer) training implemented • Submission of final training report	Training Event
Post-Training Visits	• Conduct mentorship visits by designated in-country mentors/trainers • Conduct follow-up site assessments/post-training visits	• Program Manager • SME III • Research and Data Analyst	• Confirm receipt of follow-up site assessment/post-training visit plan	1-3 months after each training event

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	22	

4. TD TITLE	5. TOTAL TD ESTIMATE
Iraq Field Epidemiology Training Program (FETP) Support	HOURS: **5,750** DOLLARS: **$761,026**

CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: DR (b)(6) (b)(6)	NAME: (b)(6)
PHONE (b)(6) EMAI (b)(6)	PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):
The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota in accordance with SOW. Section 4.1 Task 1, 4.3 Task 3, and 4.4 Task 4.

CBEP CENTCOM requests the implementation of the following projects in support of the Iraqi Field Epidemiology Training Program (FETP):

1. Integrated Biosafety and Security and Epidemiology Enhancement
This activity will enhance existing Iraqi capacities for the conduction of field epidemiology, standardization and implementation of biosafety and biosecurity practices, interdisciplinary biological incidence response, and improvement of high level stakeholder buy-in for continued interagency collaboration on topics related to natural or suspect biological incidences. This activity will be conducted through a 4-phase approach consisting of the following: Metabiota will coordinate with Iraqi FETP management (b)(6) to identify up to 15 candidate "core" participants. These candidates will be shared with the CBEP Technical POC for review and approval. Phase 1 will include identifying "core" participants and conducting a 12 week remote/online mentorship and in-depth training program. Phase 1 Training program will include topics such as general security awareness, developing and maintaining a culture of safety and security, laboratory biosafety and biosecurity practices, biorisk management standard operating procedure (SOP) and plan development, personal protective equipment, one health and field epidemiology, passive and active disease surveillance, personnel qualification, suitability and reliability, area decon and biological emergency response, and effective communication and risk management. Phase 2 will consist of a 1 week in-country hands-on training course. Phase 3 will consist of an online 1 week introduction, training, and familiarization and review of the Iraq National Biological Emergency Response Plan (NBERP) with the core team plus 10-15 members of the emergency response, law enforcement, and security agencies. Phase 4 will include the development of a gap analysis report conducted by the top core and interagency team performers to communicate findings and establish buy-in from high-level stakeholders to ensure their continued support of interagency network development and cooperation. Additionally, this task will not require any travel by the contractor. The estimated labor categories that are needed to support this effort are: Program Manager (PM), Subject Matter Expert (SME) Level I, SME Level II, and Foreign Local National (FLN) support. The total estimated labor hours for this effort are 4,550 and the estimated cost for this effort is $580,154.00.

2. Epidemiology Training
This activity will enhance existing Iraqi capacities for the execution of field epidemiology. This activity will identify up to 15 participants from various Iraqi agencies to complete a 6 week remote/online mentorship and training program. Metabiota will coordinate with Iraqi FETP management (b)(6) (b)(6) to identify candidate "core" participants. These candidates will be shared with the CBEP Technical POC for review and approval. Training program will include topics such as developing and maintaining a field epidemiology cohort, effective communication and interagency coordination, and risk management. Additionally, this task will not require any travel by the contractor. The estimated labor categories that are needed to support this effort are: PM, SME Level I, SME Level II, and FLN support. The total estimated labor hours for this effort are 1,200 and the estimated cost for this effort is $180,872.00.

CLS will provide logistics support as needed, and will be closely coordinated with the CBEP Technical Point of Contact.

The period of performance for this effort will be from 22 February 2016 to 15 May 2016. Your technical approach, proposed budget and basis of estimate for implementing this requirement is not to exceed $761,026 and is requested by 19 February 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation (Task 1):
Metabiota developed a project plan and implementation strategy that aligns with narrative from Box 8. It is anticipated that the plan for TD-022 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as a Subject Matter Expert 1)) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.
Key assumptions:

1. The Iraqi participants identified for all phases are capable of speaking, reading, and writing English, including technical concepts.
2. DTRA CBEP can and will assist in coordination and socialization with Iraq ministries and US Embassy, and will participate in the identification of appropriate Iraqi participants for all phases.
3. Metabiota assumes that the learning management system (LMS) does not need to meet DoD information security standards.
4. DTRA CBEP, through CLS or another party, can facilitate transport of Iraqi participants to a single, secure location for hands on training. (and gap analysis workshop?)
5. DTRA CBEP or other USG entity will bear the cost of providing security for said location(s) and all participants during that time period.
6. Metabiota-engaged FLNs will be able to access said location(s) during the appropriate times necessary to implement work.
7. Metabiota personnel providing guidance and support will **not** be the primary drafters of the gap analysis document.
8. Iraqi participants will have reliable access to the internet, with enough bandwidth to support videoconferencing.

Project Coordination (Task 1)
The Metabiota PM and PC will coordinate with th(b)(6) EVP Science Integration and the functional group leads for Biorisk Management, Epidemiology, and Veterinary Science to identify the appropriate SMEs in epidemiology and biosafety and biosecurity (BS&S) to develop and augment materials, and deliver a high quality and sustainable engagement in coordination with CBEP CENTCOM.

From the information provided in Box 8, Metabiota assumes that some type of field epidemiology training is already in existence in Iraq. In order to effectively ensure that our training materials align with existing efforts, the Metabiota PM and PC will, upon approval of the TD, engage(b)(6) and other relevant stakeholders, including DTRA CBEP, for additional information including existing training materials in both epidemiology and BS&S. The Metabiota PM, PC, and SMEs will participate in regular project communications with all stakeholders to ensure mutual understanding of goals, actions, and status. The Metabiota PM, PC, and SMEs will also participate in separate discussions wit(b)(6) identify core participants.

The Metabiota PM and PC will work with the SMEs to ensure that all necessary documentation required prior to initiating tasks such as training is completed correctly and submitted on time, including Training Event Plan (CDRL A014) and CTR CLS Form (CDRL A016). Additionally, that all associated reports, including Monthly Reports (CDRL A001), Training Trip Report (CDRL A006), Post-Training Assessment (CDRL A015) are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured for FLNs if needed. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS via the CBEP Technical Point of Contact.

Training Material Development and Adaptation (Task 4)
Metabiota will reuse existing training materials from EIS, FETP, and other widely recognized training programs as much as possible. However, based on inputs from(b)(6) and given the need to conduct this training remotely, Metabiota expects to use SMEs to adapt training materials and case studies for effective remote delivery and to specifically address the environment in Iraq. Metabiota SMEs will develop new materials including slide presentations, videos, interactive quizzes, etc. to effectively leverage the online learning environment. Metabiota will also develop, as appropriate, pre-tests and post-tests for monitoring and evaluation purposes. Training materials, after development and adaptation, will be delivered to DTRA CBEP for technical review and Public Affairs approval. Several of Metabiota's personnel are EIS graduates and we expect to leverage their efforts for the epidemiology-related work. Metabiota personnel and those of our partners also have extensive BS&S and biorisk management experience, and we will leverage those personnel for the BS&S-related work.

Coordination for Training Material Translation (Task 1)
Translation of training materials, if determined to be necessary, will be handled via CLS per contractual direction. Metabiota PM and PC will deliver training materials and CLS form(s) to the CBEP Technical Point of Contact for appropriate routing.

Learning Management System Implementation
Metabiota will utilize a learning management system for the delivery of course materials. Metabiota FLNs will familiarize themselves with the LMS in order to be able to provide adequate locally-based support to the training participants. Metabiota SMEs, aided by the PC and FLNs, will create courses and upload training materials.

Remote Epidemiology and BS&S Training (Task 3)
Metabiota SMEs will execute 6-week training modules on epidemiology and BS&S. Metabiota expects each week to consist of 1-2 lecture sessions conducted via internet videoconferencing which will be recorded for those participants unable to participate live. These will be augmented by the online materials. Metabiota SMEs will be available for virtual "office hours" and to answer written communications from participants. Metabiota SMEs will also grade any assignments and provide feedback to the participants on their performance. FLNs will be used to facilitate any minor logistical needs during this period.

Hands-on Course (Task 3)
Metabiota SMEs and FLNs will execute a one-week hands-on course for the core participant group. This hands-on course will be designed to emphasize the key points of the remote epidemiology and BS&S trainings especially those which would benefit from practical exercises such as PPE donning and doffing. Metabiota expects to leverage CLS to provide the venue, simultaneous interpretation, and any other logistical needs.

NBERP Familiarization and Review (Task 4)
Metabiota SMEs will coordinate with in-country stakeholders including Iraqi institutions such as the National Biorisk Management Committee (NBMC), the Ministry of the Interior, and the Ministry of Health to conduct an initial review of the National Biological Emergency Response Plan (NBERP). Metabiota SMEs and in-country facilitators will then conduct a virtual introduction to the NBERP to familiarize key participants, consisting of the selected core team and 10-15 members of the emergency response, law enforcement, and security agencies of Iraq, with the NBERP process and more specifically, their role within that process over a span of one week. To do so, Metabiota SMEs will coordinate with the in-country stakeholders to identify key roles and responsibilities within the NBERP and overarching structure prior to participant outreach.

NBERP Gap Analysis and Virtual Workshop (Task 4)
The Metabiota team will coordinate with and provide guidance to the key participants familiarized above in conducting a gap assessment of the suitability and feasibility of the National Biological Emergency Response Plan (NBERP). Participants will be engaged throughout a three-week span and arranged into virtual working groups appropriate to their roles and responsibilities. Metabiota SMEs will monitor the Iraqi participants in the process, leading working groups and keeping the overall gap assessment on task and on schedule. At the end of the time period, Metabiota will facilitate a 5-day workshop for the participants to finalize the gap assessment facilitated by an in-country implementing partner and CLS. The gap assessment will be a baseline for future work developing injects and other materials needed for a tabletop training exercise (TTX) testing the NBERP. As a result of the gap assessment, Metabiota will provide technical support and guidance in coordination with key Iraqi stakeholders to recommend changes and enhancements to the existing policies.

Epidemiology Training #2 (Task 1, Task 3, Task 4)
The Metabiota PM, PC, and SMEs will participate in discussions with(b)(6) o identify a second cohort of participants for the epidemiology module of the remote training. The Metabiota SMEs will further modify epidemiology training materials taking into consideration that the second cohort of participants will not be afforded the chance to participate in a hands-on course to reinforce their knowledge and skills. After the materials have been modified and uploaded to the LMS and the participants identified, the Metabiota SMEs will execute the 6-week training module.

Project Closeout (Task 1)
Metabiota PM, PC, and SMEs will all contribute inputs to a final report documenting the projects. The report will include lessons learned and an after-action report detailing enhancements that could be made should this type of project be repeated, either in Iraq or in other CBEP-engaged countries. Training records will also be provided to DTRA CBEP. Additionally, at the end of the period of performance, the LMS will be transitioned to DTRA

CBEP for their use and maintenance.

Monitoring and Evaluation
As part of the remote trainings and the hands-on course, Metabiota intends to administer tests to evaluate knowledge and skill levels both prior to and immediately following trainings. However, Metabiota recognizes that post-tests occurring during the period of performance will only measure short term retention. As an additional value to the client, Metabiota intends to develop and provide to CBEP post-tests which can be conducted at six month, 1 year, and 2 year intervals after training completion. Metabiota will administer the evaluations if requested by CBEP.

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the attached Risk Management Matrix. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the attached Risk Management Matrix. (Risk Management Matrix: Attachment A)

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$309,821
1003	MATERIALS	$29,089
1004	ODCs	$2,593
1005	TRAVEL	$0

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES.)

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Task 1 - Project Coordination: Metabiota will provide consistent and cohesive technical and administrative leadership, direction, program management, implementation oversight, and coordination of all project activities.

Metabiota Program Manager (PM): The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of DTRA CBEP goals at the country and regional level in direct support of this activity and the CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the SME I to ensure all day-to-day activities for the project are completed on time, and to the quality required by CBEP.

Metabiota Project Coordinator: A SME I will act as a Project Coordinator (PC) throughout the planning and execution of project objectives. The PC will lead the planning and execution of CBEP objectives towards the completion of project goals by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will manage the SMEs, to include leading regular coordination calls with the SMEs and participating in regular communications between the trainees.

To ensure the project in managed according to CBEP standards, the PM and PC will be responsible for the following:
Initiation and Program Integration: The PM, with PC support, will assist in the development of the project proposal to include the project timeline, and identification and integration of project requirements, deliverables, subcontractors, SMEs, and trainers to ensure project success. Upon acceptance of the proposal, the PM will hold a kick-off meeting with team members and partners to review the project plan and schedule, establish routine communication to support project implementation, initiate education on the contract requirements, and begin project implementation. Routine communication with all stakeholders will ensure that all deliverables, including required CDRLs, are met and submitted according to the project schedule and contract requirements.

The PM and PC will work closely with (b)(6) identify and select appropriate participants for the training course, ensuring they meet standards for inclusion, and are vetted according to CBEP protocols. In addition, the PM and PC will coordinate all aspects of training implementation, to include identification and appropriate engagement of FLNs, to include a Training Coordinator to support in-country training, act as the day-to-day manager of identified FLNs, and interface regularly with project personnel to ensure that in-country training requirements are met. The PM will ensure that FLNs are contracted with, engaged according to contract and project requirements, and have the background and skills necessary to support training implementation. FLNs are being billed at the CENTCOM FLN III rate due to the difficulty of finding personnel and hazard of working in Iraq

The PM will ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.
Communications Management: To support routine communication on the project critical to successful execution of the project, the PM and PC will establish bi-weekly project calls with all key stakeholders, to include the CBEP POC, subcontractors, in-country FLNs, SMEs, and others identified as critical to support this training during key phases identified in the project proposal. This will serve to ensure understanding of project requirements and to identify project risk at the forefront, in order to implement mitigation strategies throughout the project lifecycle, ensuring overall success. The PM will also lead communication efforts with DTRA CBEP for this activity, guaranteeing that all aspects of the project are being managed in direct coordination and communication with key team members. The PC will provide support to the PM by coordinating day-to-day activities and maintaining and scheduling routine communications, ensuring that stakeholders are provided routine visibility on the project through in-person and virtual meetings, calls, weekly reports, and updates.
Time and Cost Management: The PM and PC will ensure time and cost management and routine receipt of project reports, invoices, and other needs to support project efforts. The PM and PC will also ensure that all project deliverables are submitted on time and to the quality required for this engagement. This will include coordination, development and submission of the following contract CDRLs associated with this project: CDRL A001 Monthly Report, A006 Training Trip Report, A011 Transfer of Materials, A014 Training Event Plan, A015 Post Training Assessment, A016 CTR logistics form, and A017 Meeting Agenda and Report. All CDRLs will be developed and submitted according to the contract requirements, and assigned timelines.

Stakeholder Management: The PM will oversee the identification, development and execution of subcontracting requirements for this project. This will include identifying the necessary subcontractors, developing the subcontractor package jointly with the Metabiota contracts office, educating identified subcontractors on T&M contract requirements, and ensuring invoicing and deliverables meet contract standards. The PM will oversee all work performed by the subcontractor throughout the project and will close out the subcontract following completion of work performed in support of this effort. The PM will participate in identifying necessary subcontractors/ ndependent consultants, and initiate their engagement through contract development and execution.

Procurement and Logistics Management: The PM and PC will coordinate with CLS for all travel, logistics, translation, and training requirements in country. Utilizing CDRL A016 the CTR logistics form, PM will submit all requirements directly to CBEP and once approved, PC will coordinate directly with CLS team members to ensure all shipping and logistics requirements are met according to timeline PC will work jointly with CLS personnel to develop and submit required BOMs, and move supplies through the customs clearance process in conjunction with the DTRO. PM/PC will coordinate all logistics requirements with CLS and, once approved by CBEP, will remain in direct communication with CLS team members to ensure on-the-ground logistics are executed according to project scope and requirements.

Quality Management: The Project Coordination team will work closely with Metabiota SMEs to ensure that all training materials and deliverables submitted and utilized on the project meet CBEP's requirements. In addition, SMEs will be responsible for QA/QCing training materials and working directly with engaged FLNs to ensure the training is performed at FETP international standards. All work of internal SMEs, FLNs, and partners will undergo peer review by Metabiota functional group leaders to ensure high quality is maintained.

Human Resources Management: To further build out the project team, the PM and PC will work closely with Metabiota's scientific bench to identify and integrate internal SMEs to this project. The PM will oversee and coordinate their efforts on the project in support of adapting and developing training materials remotely executing the training course and providing M&E to ensure information learned is retained and applied at home organizations. The PM will ensure that SMEs are coordinating directly with other project team members, performing required duties, and PM will track overall LOE according to budget and project requirements for all team personnel.

Close out: The PM and PC will oversee project closeout to include wrap-up of training, finalization of deliverables, final reports, and transfer of materials. The PM will also ensure the conclusion of subcontracts and other employment agreements.

Task 4 - Subject Matter Experts (SMEs). Metabiota will provide ongoing technical support and expertise through the use of SMEs, to include the development and evaluation of training methods and materials, and to support the implementation of trainings. Metabiota SMEs engaged for this effort will provide expertise and input on the development and revision of existing training materials. They will take part in identifying and engaging trainees in conjunction with the project coordination team (b)(6) nd the CBEP CM, and ensuring that the cohort selected includes a cross-section of agencies critical to this engagement with the basic skills necessary to successfully complete and implement training components at home institutions. SMEs will implement the training courses and will work in partnership with FLN trainers to administer the courses, provide QA/QC of all materials, engage trainees in capacity building and scientific discussions supporting training concepts and implementation, and assist in the development of a gap analysis report. SMEs on this effort will be performing the functions of both SMEs and Qualified Trainers (QTs). In line with government guidance, the SMEs will be billing at the SME I or SME II labor rate, which is the equivalent cost of QT I and IIs. Metabiota has identified internal SMEs that will be a part of this effort. Metabiota will subcontract Watermark Risk Management International, LLC for additional SME support on this effort. Additionally, Research and Data Analyst (RDA) hours have been allotted to assist SMEs in development and adaptation of training materials and course delivery.

Reachback programmatic support to include finance, accounting, and contracts, will be provided as part of CLIN 1001 (FFP) and will not be separately invoiced.

Materials

Training Materials: Epidemiology textbooks will be procured and distributed to trainers and participants to support the Field Epidemiology Training Program (FETP). This will include supporting the 6-week field epidemiology training course, as well as epidemiology components of the Integrated BS&S and Epidemiology Enhancement course. Risk Management Texts and other published training materials identified by SMEs will be procured and distributed to trainers and participants to support required components of the training courses. All textbooks and published materials will be in English, and will be procured by Metabiota and shipped via CLS or a third-country shipper per contract requirements. If materials can be secured and provided to the trainers/trainees online, shipping will not be required. Metabiota will endeavor to use the LMS for all course materials, ensuring cost savings to the government where possible. SMEs will be engaged to determine the appropriate textbooks and training materials required to meet course needs.

Personal protective equipment such as Tyvek suits, gloves, goggles, booties, and N95 respirators will be procured for training purposes. Additionally, consumables and other paraphernalia such as chlorine plastic wash basins, buckets, disinfectant sprayers and anti-fog spray will also be procured.

USB internet devices and internet access cards will be procured and provided to trainers/trainees in-country to ensure they have access to a stable internet connection during all remote training sessions. USB internet devices will be procured and tested in-country to avoid shipping charges and to ensure they are operational on the ground. USB internet devices and access cards will be monitored by the FLNs to ensure they are used for training purposes only and are maintained according to equipment/material guidelines for the duration of the course.

General office supplies will be procured to support in-country training activities and routine project needs for the execution of the training courses. Office supplies will be procured locally and will include, but may not be limited to, pens, paper, thumb drives, binders, etc.

Metabiota will conduct market research and ensure the best price is secured maintaining quality and technical requirements for all procurement of goods. Metabiota will coordinate directly with CLS and third-country vendors for all shipping requirements, and will work closely with CLS and DTRO to ensure customs clearance requirements are met and goods delivered according to project timelines and CDRL requirements. Metabiota will ensure cost management for all procured supplies and will coordinate directly with CBEP and CLS to support additional requirements for the hands-on training events to include such items as printing of the developed and adapted training materials, training certificates for participants, and translation services, if needed.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project working abroad. DBA insurance will be applied for labor costs incurred overseas. As no travel is authorized for this project, DBA will only be applied to FLNs, or other contractors, engaged on this effort, for the duration of the program. Metabiota maintains a blanket DBA policy for all personnel and will add the FLNs, and other performers meeting DBA requirements, to this policy as they are engaged. A (b)(6) f their total compensation will be billed to the project on a monthly

basis. A reconciliation of the total DBA will be performed prior to final invo cing to ensure accuracy of the charges, in accordance with total hours worked. Final invoicing will be adjusted, if necessary, to reflect the final DBA allocation numbers.

Subcontracts

Subcontracts will be issued to SMEs, FLNs, and/or their home organization(s) as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the labor or materials budgets.

Travel

Travel is not requested to support this effort according to the project scope. as all requirements will be executed remotely, and will rely on FLNs for in-person training needs. Metabiota assumes that we will be able to identify a FLN in all locations in Iraq where trainees are identified.

10. FUNDING AUTHORIZED THIS TD REV

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR			
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $0

12a. CURRENT PERIOD OF PERFORMANCE

22-Feb-2016 – 15-May-2016

12b. TD REV PERIOD OF PERFORMANCE

22-Feb-2016 – 15-May-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature: _____

Date: . . . . . .

14. REGION

CENTCOM / Iraq

15. TECHNICAL POINTS OF CONTACT

(b)(6)

Iraq Country Manager

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X _____

(b)(6)

COR / J3CTB Deputy Chief Scientist

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	24	

4. TD TITLE	5. TOTAL TD ESTIMATE
Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East and South Asia.	HOURS: 160 DOLLARS: $ $60,000

6. CONTRACTING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME (b)(6)
PHONE (b)(6) MAIL: (b)(6)	PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to develop a Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East, South Asia and CBEP collaborations in the CENTOM Region in accordance with SOW section 4.3, Task 3.

Metabiota shall develop a 2-5-minute film narrative of the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, which was held at the Royal Scientific Society (RSS) on March 7-8, 2016 in Amman, Jordan. The visual narrative (2-5 minutes) objectives are to document the Jordan conference and describe other science initiatives and the outcomes of CBEP's engagements in the Middle East and South Asia. Metabiota shall develop the specific script in coordination with CBEP CENTCOM regional managers. The footage and interviews that Metabiota has from the conference can be utilized for the visual narrative. The visual narrative should be completed by June 30 2016. Total costs for the narrative shall not exceed $60,000.

Deliverables:

- A short film narrative of 2-5 minutes on 3 DVDs. Final film must go through Public Affairs Office (PAO) approval at DTRA.

The period of performance for this effort will be from May 1 to June 30 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $60,000.00 is requested by 19 April. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Phase 1: Proposal Development & Initiation (Task 1)

Metabiota developed a project plan and implementation strategy that aligns with the narrative from Box 8. It is anticipated that the plan for TD-24 is considered a living document, and it is expected that revisions to the plan may be necessary following stakeholder meetings. During proposal development, Metabiota will use Program Manager (PM) and Project Coordinator (PC, billed as a Subject Matter Expert 1) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Metabiota assumes the following:

1. The PoP assigned to this project will allow enough time for PAO approval of the final video. However, if PAO approval extends beyond the project timeframe, Metabiota will work with AEP regional leadership and the COR to adjust the PoP or allow for final approval of the video outside of the project timeframe, as appropriate and within contractual compliance;
2. Production services required for this project will be complete within 3 weeks allowing enough time for PAO approval of the final video. Should services required extend past this timeframe, Metabiota will work with the CBEP CENTCOM regional leads (and COR, if necessary) to adjust the schedule accordingly;
3. Box 8 of TD-24 states that this project will be completed in accordance with section 4.3, Task 3, which refers to Qualified Trainers (QTs). Based on the requirements, Metabiota has replaced Qualified Trainers with Task 4- Subject Matter Experts. Metabiota assumes this will be acceptable in the execution of the project and engagement of SMEs for this effort.

Project Coordination (Task 1)

The Project team will be led by an experienced Program Manager (PM (b)(6) nd supported by a highly effective Project Coordinator (PC (b)(6) MPA, to cover Task 1 – Project Coordination. The PM and PC were selected for this project, because they implemented TD-07 the Middle East South Asia Epigenetics and Genomics of Infectious Disease Conference and have the historical knowledge to effectively and efficiently manage the requirements identified for TD-24. In addition, Metabiota will engag (b)(6) PhD, from Gryphon Scientific LLC to assist in narrative development as a SME under Task 4 (b)(6) s the PI and senior er on TD-07, working closely with (b)(6) (b)(6)

Note: The Metabiota PM confirms subcontractor knowledge of the contractual requirements prior to TD approval.

Phase 2: Preparation (Task 1)

Upon TD approval, the PM will establish routine communications with project team members and CBEP to initiate project implementation. The PM will hold a kick-off meeting within 5 days of approval, with participation from the AEP PMO, project team members and key CBEP stakeholders to review project requirements and ensure a mutual understanding of project goals and objectives is realized. The PM, with assistance from the PC, will identify and engage the videography firm required to execute production of the video. The PM will lead coordination and integration of the project team with CBEP stakeholders to develop the narrative and complete the film.

The project team will ensure that all necessary documentation required prior to initiating tasks is completed correctly and submitted on time, including CTR CLS Form (CDRL A016) and the Monthly Reports (CDRL A001). The project team will work closely with CBEP regional leads, A&AS support staff, and CLS to ensure that all logistics requirements are coordinated and implemented according to the project schedule and contractual

requirements. The Metabiota Travel Coordinator will coordinate with the project team to assist in the request of travel requirements supporting this effort and will ensure that travel arrangements are secured, immediately following approval by the COR, and in line with the project schedule and execution requirements.

Sub-Phase 2.1: Film Narrative Development and Adaptation (Tasks 1.4)

Metabiota will select and engage a videography firm to produce the film, following sourcing of an appropriate vendor for this engagement. The project team will engage the CBEP regional leads to ensure the technical requirements are clearly determined and will select a service provider at best cost to the government, meeting the requirements identified. Upon engagement of the videography firm, Metabiota will transfer the existing, unedited video footage and interviews collected during the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, held at the Royal Scientific Society (RSS) from 7-8 March 2016 to the firm in order to produce the film. The unedited video footage, interviews, and photographs captured during this event will provide the raw material to effectively and relevantly document the Jordan conference and describe other science initiatives and the outcomes of CBEP's engagements in the Middle East and South Asia. The Metabiota team will work directly with CBEP regional leads and the videography firm to determine the narrative and produce the film.

Sub-Phase 2.2: Coordination for Material Shipment (Task 1)

Shipment of materials and final edited film, if deemed necessary, will be handled via CLS. The project team will deliver the final edited and PAO approved film utilizing the appropriate CLS forms (CDRL A0016 and associated forms) to the CBEP team for appropriate routing, adhering to contract timelines and deliverable schedule. The Metabiota team will work closely with CBEP, A&AS, and CLS staff members to coordinate and execute any logistical requirements, as needed.

Phase 3: Implementation (Tasks 1.4)

The Metabiota Project Team will develop and create a 2-5 minute film narrative of the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, held at the Royal Scientific Society (RSS) on March 7-8, 2016 in Amman, Jordan. The film will be produced in the English language and may include visual frames of speakers on stage, panning of audience, and snapshots of the discussion panels, poster session, and participants asking questions and engaging with speakers. The film may also include short interviews with conference organizers, Scientific Advisory Board members, speakers, presenters, and attendees concerning the importance, relevancy, and benefits of the conference, among other topics. The film will be produced utilizing the technical expertise of the film editors, Metabiota team, and CBEP regional leads to showcase the conference and highlight the scientific initiatives and engagements stemming from this event and CBEP efforts in the region. Suitable background music will be included, as well as sub-titles, if deemed necessary. Metabiota will ensure that the film is adjusted/edited according to guidelines received from CBEP, and other key stakeholders. CLS will be engaged to provide logistical support (CDRL A0016), should it be required for this effort. In addition, Metabiota will ensure PAO approval of the film, and will coordinate with the technical team to address any necessary changes prior to completion and final delivery of the product.

To support implementation efforts, the Metabiota PM will travel to Washington DC for meetings with CBEP regional leads and the project team to develop the narrative and review the video footage. The PM will participate in working sessions, brainstorming, and technical development of the film narrative during scheduled in person meetings to ensure execution of the narrative and completion of the project. In addition, the PM will meet with the videography firm to review performance and completion of tasks associated with this project.

Phase 4: Project Closeout (Task 1)

The project team will close out all activities associated with this project, to include final reporting, invoicing, and submission of all relevant CDRLs according to the outlined schedule. In addition, the project team will contribute to lessons learned conversations with CBEP detailing enhancements that could be made should this type of project be repeated, as necessary and requested by CBEP regional leads. Finally, unedited and edited film, and other relevant materials will be provided to CBEP.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$36,810
1003	MATERIALS	$10,695
1004	ODCs	$0
1005	TRAVEL	$2,373
TOTAL		**$49,877.97**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Labor

Costs for direct labor to support this activity is required for the following personnel:

Metabiota Program Manager (PM): The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of CBEP goals in direct support of this activity and the CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the SME 1 to ensure day-to-day activities for the project are completed on time, and to the quality required by CBEP. The PM will participate in routine conference calls and other forms of communication with CBEP regional leads and SMEs to ensure project execution. The PM will oversee the subcontractors on this effort, to include the services provided by the videography company in execution of the film. The PM will ensure all contract CDRLs are met and delivered according to the project timeline, and contract requirements.
LOE: 80 hours

Metabiota Project Coordinator: A SME 1 will act as a Project Coordinator (PC) throughout the planning, execution and close out of project objectives and activities. The PC will support the planning and execution of CBEP objectives towards the completion of project goals by participating in proposal development, stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will participate in routine project communications, to include leading regular coordination calls with the project team, CBEP, the videography company, and other key stakeholders.
LOE: 60 hours

SME 3 (b)(6) rom Gryphon Scientific will be engaged to support technical development of the film narrative for this project. Having coordinated the MESA Epigenetics and Genomics of Infectious Disease Conference with the Metabiota team, she is critical in ensuring the conference message is received and communicated through the film (b)(6) will work directly with Metabiota and CBEP to develop the narrative, review the footage, and provide subject matter expertise to the team and the production services in development and execution of the film. Should edits or revisions be required following CBEP and PAO guidelines (b)(6) ll participate in editing and refining the narrative to be delivered in the

final product. (b)(6) will be responsible for all monthly reporting and deliverables assigned to the Gryphon subcontract by Metabiota in execution of this project.
LOE: 80 hours

Reachback programmatic support to include finance, accounting, and contracts, will be provided as part of CLIN 1001 (FFP) and will not be separately invoiced.

Materials
Training Materials: Two (2) external hard drives will be procured to store the photos, raw video footage, and the final edited video.

Production Services: Metabiota will engage a videography firm to produce the short video for this effort. This will include identification of sound bites, completion of film transcripts, editing, and production of the video.

Metabiota will conduct market research and ensure the best price is secured, maintaining quality and technical requirements for all procurement of goods. Metabiota will coordinate directly with CLS for all shipping requirements, and will ensure cost management for all procured supplies, as necessary to complete the scope of this effort.

Subcontracts
The subcontract with Gryphon Scientific will be modified to include labor hours and materials required for implementation of this project. Costs are captured under the labor and materials budgets.

Travel
Travel costs will be cost reimbursable and provide best cost to the government following JTR regulations. Travel is requested for the PM to meet with the project team, Gryphon SME, CBEP, the videography company, and other key stakeholders to support the execution of Phase 3, and ensure development of the film narrative and completion of the project. The PM will travel to Washington DC to take part in in person meetings, brainstorming activities, narrative development and review of film footage and sound bites developed by the videography company supporting this project.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ $0

12a. CURRENT PERIOD OF PERFORMANCE
01-May-2016 – 15-May-2016

12b. TD REV PERIOD OF PERFORMANCE
01-May-2016 – 15-May-2016

13. CONTRACTOR SIGNATURE AND DATE
Signature: (b)(6)
Date: 28APR16

14. REGION
CENTCOM/ Regional

15. TECHNICAL POINTS OF CONTACT
(b)(6) CENTCOM Science Lead,
(b)(6)
(b)(6) CENTCOM Regional Lead,
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X
(b)(6)
COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Company: Metabiota Inc.
Contract No: HDTRA1-14-C-0104
TD No: 022 - Iraq Field Epidemiology Training (FETP) Support
Date: 19 February 2016

Attachment A: Risk Management Matrix

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
				Cost		
Material Procurement	It is unclear what training material may be required and available in-country for implementation and execution of the trainings and workshop. If materials are not available in country, it may be necessary to use CLS for single shipper, VAT coverage, etc	4	4	(b)(4); (b)(6)	Collaborate with in-country partner, SMEs and FLNs to identify which materials will be required as soon as possible; engage local collaborators to provide in-country support; engage with CLS and A&AS to procure, secure country clearance, and ship any materials not locally available	Med
Material Procurement	Since this effort will require extensive levels of virtual communication and the extent of internet access of FLNs and participants is unknown, phone and internet costs may vary	5	4		Engage with in-country partners and FLNs to provide stable internet connection at the best price to ensure access to virtual training, and routine communication for the duration of the project.	Med
Cost Management	Implementing partners (FLNs, in-country partners) may lack the appropriate financial systems to capture, track, monitor and report on acceptable expenditures under a T&M "C" Type contract, but they are critical to project implementation	4	4	Med-High	Metabiota will train our implementing partners in T&M contract requirements and provide standard forms and FAQ to implementers that are overseen and managed by our PM/PC. Our PM/PC with reachback to our PMO will provide oversight and management of all partners for the duration of the project, ensuring contract guidelines are maintained	Low
				Schedule		
End of AEP POP	Current AEP POP expires 15 May 2016. There is not enough time to accomplish all goals of this technical direction in that time frame	5	5	(b)(4); (b)(6)	finish activities and develop project schedule for full duration of planned activities	(b)(4); (b)(6)
Volume of training materials	The quantity of training materials projected for 12 weeks of remote training may require significant time for technical review and public affairs approval, forcing delay of the start of training	5	3	Med-High	Metabiota SMEs will submit training materials on a rolling basis and front load development of materials that require significant revisions. Metabiota PM/PC will coordinate directly with A&AS and CLS staff to ensure materials are submitted according to schedule and are tracked appropriately	Med
On time delivery of CTR CLS form (CDRL A016)	The CTR CLS deadline is 60 days prior to training event and is contingent on receipt of final participant list, complete BoM, logistics requirements, etc	5	3	Med-High	Will engage in-country partner, SMEs and FLNs to quickly identify all travel, translation, translation and training requirements and ensure successful submission. PM/PC will coordinate with A&AS and CLS team members to track and manage all requirements according to contract and project guidelines	Med
Training Event Plan Submission (CDRL A014)	The TEP submission deadline is 60 days prior to training event, and is contingent on submission, translation, PAO approval, etc	5	3	Med-High	Submit CBEP required deliverables for the training engagement immediately upon receipt of approved proposal to ensure successful implementation	Med
Monthly report (CDRL A011)	Contingent on accurate tracking and submission of reports and hours by FLNs	4	3	Med-High	Will train FLNs and SMEs on required format and deadlines for monthly CDRLs and ensure deliverable is met	Low
Training Trip Report (CDRL A005)	The TTR submission deadline is 10 days following completion of the training event.	5	3	Med	PM will work with SMEs, and FLNs to complete the TTR following training wrap up and ensure it is submitted according to project schedule	Low
Transfer of Materials (CDRL A011)	Required for procured materials that will be transferred to host country partner 45 days in advance of transfer. Implementation contingent on procurement and materials identified for transfer, as well as host country partner identification	2	3	Med-High	Metabiota PC will develop BOM with in country partners and will track inventory for the project. Will work with PM to develop Transfer of Materials agreement according to host country agreements and requirements for submission and signature by CBEP, MB, and host country partners. Will identify appropriate partners for material transfer and will ensure inventory is tracked and maintained as part of project requirements	Low
Post Training Assessment (CDRL A015)	In conjunction with CBEP POC and partners complete the assigned post training assessment form and submit according to schedule	2	4	Med-High	CBEP to ensure the deliverable meets their requirements. Metabiota will ensure M&E for training follow up is completed and reports sent to CBEP for their use and evaluation. PM will coordinate with CBEP POC to ensure deliverable is identified in	Low
Meeting Agenda and Report (CDRL A017)	Required for CBEP scheduled meetings to ensure agenda and minutes are captured for project record	2	1	Low	Metabiota PC will work with the Project Controls Analyst and ensure that meeting agendas and reports are developed and submitted to CBEP in accordance with scheduled meetings and requirements for submission	Low
Monitoring & Evaluation tests	Distribution and collection of pre-tests and post-tests for monitoring and evaluation purposes will be contingent on FLNs	3	3	Med	Will collaborate on specific metrics with CBEP POCs. Metabiota SMEs will monitor the training and workshop processes to ensure completion	Low
Project Integration	Virtual management, and project coordination in a conflict area may pose challenges in effective exchange of pertinent data, and implementation of requirements.	2		(b)(4); (b)(6)	The PM will act as the single POC for this effort, and will integrate project teams with support of the PC to ensure CDRLs are developed and met within project timeframes. PMO and SME technical internal to Metabiota will support this effort and ensure direct support is met at all levels.	Low

Time Management	There are several activities which will require a significant amount of tracking, monitoring, and effective communication with a diverse array of stakeholders, including: establish agreements with in country institutions; achieve customs clearance for outside procurements; develop and process CLS forms for participant support and shipping; acquire Leahy Amendment clearance for trainees; receive PAO approval and training team review of new training materials; etc.	5	[illegible]	(b)(4); (b)(6)	he PM and PC will ensure all project deliverables and CDRLs are bmitted, implemented, and tracked according to the project neline. PM and PC will communicate routinely with all akeholders to ensure project schedule is adhered to and will hify CBEP and other key stakeholders immediately, should lays outside of project control be met, and corrective action cessary. The project team will work closely with CBEP, A&AS, d CLS teams to ensure requirements are understood, met, and livered according to timeframe. The PMO and scientific bench, lemal to MB will support project and technical requirements on e project ensuring all materials are QAQC'd and continuing M&E implemented on the program to manage requirements to the ality expected by the client ill have effective change management process for delays out of eam Metabiota and CBEP control.	Med
Performance						
Event Execution	Remote monitoring and execution of training events and workshop by PM, PC and SMEs will prohibit ability for hands-on corrections.	5	5	(b)(4); (b)(6)	Will work with FLNs and in-country implementing partners to complete scheduling and coordination requirements in advance, and anticipate and mitigate any potential challenges. Maximize the use of new technologies which facilitate remote engagement in real time.	Med
Trainee Attendance	Reliance on CLS to coordinate all in country attendee transportation to centralized point for training events - Security of country may impact transportation and risk associated with coordinated events	4	3	Med-High	Will coordinate with CLS, in-country partner, US Embassy in Iraq, and CBEP POCs to secure the safe transportation and mitigate potential risks for training event attendees.	Med
Training Material Development	Training materials that cover the full range of activities have not been developed for Iraqi implementation and integrated for a cohesive delivery	4	4	Med-High	Metabiota will reuse existing training materials from EIS, FETP, and other widely recognized training programs as much as possible, and SMEs will adapt training materials and case studies for effective remote delivery and local relevancy	Low
Logistical Coordination	Remote coordination for venue selection, materials procurement, translation and interpretation services and implementation of practical exercises for the hands-on course is required	4	3	Med-High	Will utilize CLS for logistical support and local logistical organization for the venue facilities, simultaneous interpretation services, and other in-country logistical requirements. Will utilize FLNs for practical exercises.	Low
Accurate Gap Analysis of the National Biological Emergency Response Plan	Metabiota FLNs will provide guiding support but will not be the primary drafters of the NBERP Gap Analysis, the gap assessment is contingent upon workshop participants	5	3	Med-High	SMEs will monitor and lead workshop remotely to keep the assessment on task. Upon completion, Metabiota will coordinate with key Iraqi stakeholders to make critical changes to the NBERP and ensure continued buy-in and support from high-level stakeholders	Low

Travel Authorization Form

TRIP #	09.21.2015 KZ AEP
Project/Phase #	AEP, TD002
Purpose:	Travel to Almaty, KZ for preparation and implementation of Sample Collection and Diagnostics Training on Middle East Respiratory Syndrome (MERS-CoV) in Camels and Bats in Kazakhstan, 7-11 December 2015
SOW / Task	Implement the MERS-CoV training event
Desired Outcome	Provide coordination, oversight and execution of TEP 1304 sample collection and diagnostics training event, meeting project requirements.
Dates, Location	Almaty, KZ - Gollogly - 30 November-12 December; Mendenhall/Linster - 02-12 December; Smith/Wang - 05-12 December 2015
Traveler:	NAME / POSITION: 1. (b)(6) SEA PM; 2. (b)(6) Trainer, Duke NUS; 3. (b)(6), Trainer, Duke NUS; 4. (b)(6) Trainer, Duke NUS; 5. (b)(6) Trainer, Duke NUS
Lodging to be Arranged by:	Metabiota
Contract:	AEP, HDTRA1-14-C-0104

FLIGHT AND TRAIN TICKETS

From:	To:	Airfare Cost	Booking Fee				Total
Gollogly - LAX	Almaty, KZ	$ 1,681.01	$ 43.00				$ 1,724.01
Mendenhall - Singapore	Almaty, KZ	$ 1,737.17	$ 43.00				$ 1,780.17
Linster - Singapore	Almaty, KZ	$ 1,737.17	$ 43.00				$ 1,780.17
Smith - Singapore	Almaty, KZ	$ 1,737.17	$ 43.00				$ 1,780.17
Wang Singapore	Almaty, KZ	$ 1,737.17	$ 43.00				$ 1,780.17
Sub-Total:							**$ 8,844.69**

Lodging & Meals and Incidental Travel Expenses (M&IE)

Location	Lodging No of Nights	Estimated Lodging Costs Per Day	M&IE Days	M&IE Rate	Subtotal		Total
Smith (5 full days, 2 trave days)	7	$ 217.00	7	$ 99.00	$ 2,162.50		$ 2,162.50
Wang (5 full days, 2 travel days)	7	$ 217.00	7	$ 99.00	$ 2,163.49		$ 2,163.49
Mendenhall (9 full days, 2 travel days)	10	$ 217.00	11	$ 99.00	$ 3,209.50		$ 3,209.50
Linster (9 full days, 2 travel days)	10	$ 217.00	11	$ 99.00	$ 3,209.50		$ 3,209.50
Gollogly (11 full days, 2 travel days)	11	$ 217.00	13	$ 99.00	$ 3,624.50		$ 3,624.50
Sub-Total:							**$ 14,369.49**

Other Travel Expenses - ground transportation, fees, insurance etc.

Expense Type	Qty	Rate					Total
Smith/Wang/Mendenhall/Linster - ground transportation to/from Singapore airport	8	$ 50.00					$ 400.00
Smith/Wang/Mendenhall/Linster - ground transportation to/from Almaty airport	4	$ 40.00					$ 160.00
Wang - visa expenses	1	$ 160.00					$ 160.00
Duke NUS - daily ground transport in KZ	9	$ 50.00					$ 450.00
Gollogly - transportation from/to Almaty airport	2	$ 40.00					$ 80.00

Gollogly - daily ground transport in KZ	11	$ 50.00					$ 550.00
Gollogly - transport to/from US airport	2	$ 100.00					$ 200.00
Sub-Total:							$ 2,000.00

TOTAL ESTIMATED TRIP COSTS

							TOTAL
TOTAL ESTIMATED TRIP COST							$ 25,214.18

Traveler Justification

The team is traveling to Almaty, Kazakhstan, to implement a 5-day sample collection and diagnostics training event for local researchers on Middle East Respiratory Syndrome (MERS-CoV) in camels and bats. This is a follow-on training to the event held from 29 June – 03 July 2015, which covered safe handling and field sampling activities in camel and bat populations around Almaty. This training will focus on establishing diagnostics for serology and antigenic material utilizing the samples collected during the June event. Team members consist of four Qualified Trainers from Duke National University Singapore (Duke NUS) required to conduct the training event, and one Program Manager from Metabiota Inc., who will be responsible for coordination and oversight of the event. The training event will be held from 7-11 December 2015. (b)(6) (arriving 1 and 2 Dec, respectively) will arrive earlier than other team members, (b)(6) (arriving 5 Dec), in order to optimize reagents at the laboratory, conduct 'dry-runs' prior to training kick-off, and ensure all materials/supplies are in place and ready for training kick-off on Monday, 7 December. All team members will depart on 12 December following close of the training event.

(b)(6) **Program Manager, Metabiota Inc.**

(b)(6) is responsible for the coordination and implementation of this event. (b)(6) will coordinate all event logistics required for execution of the 5-day training event. She will meet and liaise with local collaborators from MVI to coordinate logistical, technical, and administrative requirements for the training, to include training set-up, local procurement activities, oversight and coordination of the Duke NUS trainers during the event, to include pre-coordination meetings, laboratory set-up and training runs prior to training kick-off. (b)(6) will also coordinate with the local CLS logistics team responsible for participant travel, transport, translation and interpretation services to ensure all requirements are met to successfully implement the training.

(b)(6) **Trainer Director, Duke-NUS**

(b)(6) will direct all technical aspects of the laboratory training event as the Lead Trainer from Duke NUS. (b)(6) will lead key training sessions addressing bat and camel diagnostics for MERS-CoV. (b)(6) is responsible for designing the training event and syllabus, and will ensure his team successfully implements the event following safe laboratory practices. (b)(6) will not only coordinate the event ensuring delivery of all technical information, but will also be a presenter during the event and will be responsible for implementing the practicum portion of the training in the MVI laboratory. He will coordinate directly with (b)(6) and the local partners to implement this training event.

(b)(6) **Trainer, Duke-NUS**

(b)(6) is one of the Trainers taking part in this event as part of the Duke NUS team, and will be responsible for delivering classroom presentations, and taking part in laboratory diagnostics training as a senior researcher and project lead for Duke NUS. (b)(6) will present materials on pathogen evolution, molecular evolution, sequence alignment algorithms, best-fit evolutionary models, and phylogenetic tree reconstruction. He will also provide subject matter expertise on bat sampling and diagnostics in direct support of this event.

(b)(6) **Trainer, Duke-NUS**

(b)(6) is one of the Trainers taking part in this event as part of the Duke NUS team. He is responsible for optimizing and setting up the laboratory assays being used in the practicum portion of this event, and will provide hands-on training to the participants in sample testing, analysis, safe handling, following laboratory protocols and best practices. He will also provide presentations during the classroom portion of this event on laboratory processes and diagnostics of MERS-CoV, to include safe handling and transport, serology, molecular virology, and sequencing. (b)(6) will also assist in preparations of event logistics by setting up laboratory assays, and processes for the training event in coordination with MVI technical staff.

(b)(6) **Trainer, Duke-NUS**

(b)(6) is one of the Trainers taking part in this event as part of the Duke NUS team. He is a senior researcher and scientist at Duke NUS and will engage in both the laboratory and classroom portion of this event speaking to clinical pathology, current surveillance practices, ongoing research activities into the disease, and viral sequencing, providing key insights and subject matter expertise to understanding MERS-CoV. He will take part in collaborative discussions and working sessions with the trainees, providing valuable scientific collaboration and engagement from a cross-regional perspective.

Metabiota's Technical and Cost Proposal

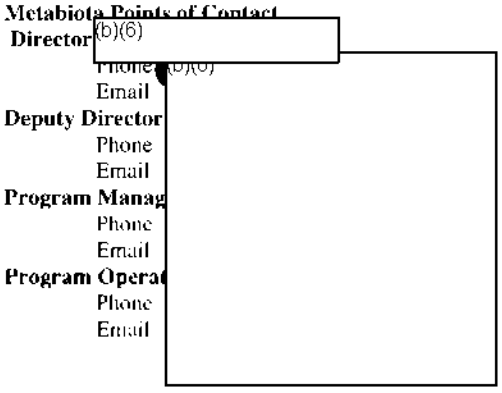
"DTRA/CBEP Implementation of a Regional Landscape Analysis in the Southeast Asia Region."

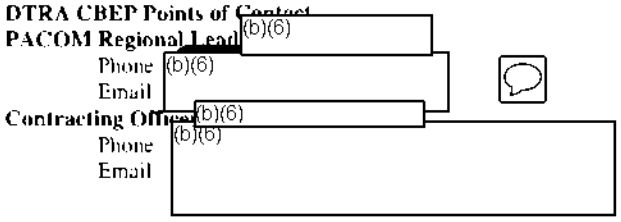
Technical Direction Number: TD-007
Contract Number: HDTRA1-14-C-0104
CAGE Code: 56SP4
DUNS number: 828131156

Small US Business
Metabiota, Inc.

METABIOTA

One Sutter Street, Suite 600 San Francisco, CA 94104





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Team Metabiota Overview

Metabiota is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in 20 countries and offices in San Francisco, Washington, China, Canada, and Sierra Leone.

Metabiota currently supports a number of Cooperative Biological Engagement Program (CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. Metabiota's mission aligns well with CBEP; the entire Metabiota team is focused on supporting our USG Partners in reducing the risk of biological threats worldwide, and employs a collaborative and agile approach to biological risk reduction.

To ensure a successful program, Metabiota, in coordination with CBEP Regional Leadership and in-country partners, has built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGOs) whose respective aims could impact CBEP objectives.

Project Overview

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Introduction

Through AEP Technical Direction 007, DTRA CBEP USPACOM Regional Leadership tasked the Metabiota team with creating a narrative, needs-based analysis document to DTRA CBEP and PACOM leadership that will capture regional requirements for risk reduction leading to the development of realistic and achievable end-states for the region. The desired analysis is multi-faceted and will include a characterization of the disease landscape within the region, factors that increase the likelihood and severity of disease outbreaks and biological threats, and current regional capacity the address biological threats including stakeholders, networks and initiatives operating within the region.

The Disease Landscape Section will detail current biological threats present in the region and characterize the risk of accidental, naturally occurring, and intentional disease outbreaks and biological events by pathogen. The Regional Capacity Section will include organic regional capabilities as well as an analysis of stakeholders, networks and initiatives operating within the region. This will allow for detailed analysis of the gaps present, as well as an analysis of the effectiveness of different approaches taken to address the biological threat spectrum. Ultimately, the intent of this endeavor is to assist CBEP in developing an informed, targeted and goal-oriented 5+ year strategic plan with measurable and achievable results.

Understanding

The Metabiota team understands that the US Department of Defense (DoD) initiated CBEP through DTRA in order to: secure and consolidate select agents; enhance Biosafety and Biosecurity (BS&S) standards; and strengthen the USPACOM region's ability to detect, diagnose, survey, and report emerging and re-emerging diseases of international security concern and that CBEP accomplishes these objectives in accordance with the World Health Organization (WHO) International Health Regulations (IHR) and World Health Organization for Animal Health Guidelines (OIE). The team further recognizes that to achieve its mission, CBEP works collaboratively with partner nations, U.S. Government agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health, promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner. Through the Academic Engagement Partnership (AEP) Program, Metabiota aims to support the CBEP mission of reducing the potential impact of biological threats through enhanced biological safety and security, awareness of biological risks, and knowledge related to biological pathogens.

In support of this approach, the Metabiota team intends to develop a high-value regional landscape analysis that will support strategic CBEP objectives by informing the regional engagement strategy with the aim of fostering collaboration on topics critical to biological threat reduction, enhancing the regional capacity to perform biorisk management and mitigate the threat of biological events. The team's on-the-ground experience and decades of expertise makes us well positioned to support the execution of this analysis and all of the associated activities as well as scientific engagement in the USPACOM's area of responsibility.

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Purpose

The CBEP USPACOM Regional Strategy is being developed to address existing challenges faced within the region and support Country Managers (CMs) in the execution of their five+ year strategic plans. The recent strategic planning efforts within CBEP (multi-year plans, metrics, etc.) require a broader approach to regional analysis and calls for the development of a standardized methodology for information gathering and needs analysis that can support the validation of requirements and enhance the integration of country specific strategies.

To achieve this purpose, CBEP endeavors to develop a five+ year strategic regional plan that will guide DTRA's decision-making and engagements at a regional level. This plan includes but is not limited to: focusing on reducing biological threats, enhancing the transparency and confidence-building between DTRA PACOM and host countries, engaging scientists through cooperative pursuits, and enhancing host-nation capacity in disease detection and reporting, while adhering to international codes of security and safety to ultimately provide a mechanism for sustained engagement.

To accomplish this purpose, DTRA CBEP, through the Academic Engagement Partnership Program (AEP), will engage Metabiota Inc. and its cadre of Subject Matter Experts (SMEs) to provide a regional landscape analysis that will support the development of the CBEP PACOM engagement strategy.

Objectives

Through the collaborative engagement process with Metabiota and the development of the regional landscape analysis, DTRA CBEP will be able to:

- Characterize the region based on the disease landscape, organic regional capabilities, and external factors that impact CBEP objectives;
- Identify needs and areas of overlap with other stakeholders, providing avenues for successful engagement;
- Support regional leadership in providing overarching strategic guidance and goals to CBEP PACOM Country Managers in the development of their country engagement strategies and inform the development of a regional engagement strategy.

Threat Reduction Outcomes

Metabiota will provide a narrative, needs-based analysis document to DTRA CBEP leadership that will capture regional requirements for risk reduction leading to the development of realistic, measurable, and achievable end-states for the region. Additionally, the analysis will promote a global network of research collaborations and develop a sustainable infrastructure for advancing scientific research, including the early detection of emergent threats.

Increasing knowledge through conducting a regional analysis is critical to capacity building efforts across the PACOM region and supports the early detection and response to emerging events, thus safeguarding the world from biological threats. Without completion of the analysis, the region is subject to the following identified risks:

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- Incomplete country and regional coverage of disease detection, reporting and response systems;
- Increased security threats due to improper handling of pathogens of security concern;
- Limited understanding of pathogens of concern circulating in the region;
- In-country and regional stakeholders with varying agendas, priorities, and goals.

The completion of the regional analysis will mitigate the identified risk factors by:

- Providing a roadmap that will guide regional engagement and develop forward operating presence in the region to facilitate successful, multi-year engagement;
- Informing planning and regional decision-making strategy that supports the CBEP mission and desired end-states;
- Validating the impact of a comprehensive strategy based on an overview of the arena, regional capabilities, the engagement and diseases landscape, identified gaps and areas of synchronicity to support the CBEP mission;
- Supporting a unified and streamlined approach across all countries and bolstering the effectiveness of CBEP Country Managers by providing them with an additional tool to inform their planning efforts, while ensuring roll-up to the overarching vision and mission of CBEP;
- Supporting informed action and engagement that will define CBEP's agenda in the region allowing for clear communication and partnerships with other USG agencies and external stakeholders;
- Optimizing outcomes with focus and defined thresholds for achievement;
- Increasing scientific capabilities through research collaboration and fostering an environment of scientific partnership.

Risk Management

The factors below have been identified as potential risks to project cost, schedule, and/or performance, and included are our strategies for mitigation and minimization of these risks.

No.	Risk Factor/Rationale	Impact	Likeli hood	Consequence	Risk Level	Mitigation	Likeli hood	Consequence	Residual Risk
1	Short suspense on completing a useable document	Schedule and Performance	5	4	(b)(4); (b)(6)	Metabiota will employ rigor around process with routine scheduling & deliverables to maintain target deadlines	3	3	Medium

2	Broad scope of analysis	Schedule and Performance	3	5	(b)(4); (b)(6)	Metabiota will employ a feedback loop and routine course correction activities through engagement with CBEP PACOM leadership to ensure Scope stays focused on CBEP objectives	3	3	Medium
3	No forward presence in countries- difficult to achieve buy in and get access	Schedule and Performance	5	5		Metabiota will use personnel with local experience and subject matter expertise, as well as in country regional partners	3	3	Medium
4	Incomplete regional coverage- information is fragmented	Performance	5	5		Metabiota will work with stakeholders and provide a broader assessment of the region, in order to facilitate capturing hazards and capabilities, as well as opportunities to engage	3	3	Medium
5	Multiple country managers with different plans and objectives	Schedule and Performance	3	3	Medium	The team will engage country managers as a group and individually, to ensure that this assessment process assists them with their needs, as well as captures the data they collect in their country assessments to drive final results	2	3	Medium

					(b)(4); (b)(6)			(b)(4); (b)(6)
6	Massive amounts of data to sift through	Cost, Schedule & Performance	4	4		Metabiota will engage research analysts and SMEs to compile, coordinate and guide data collection process to include performing routine focused analysis of the data and impact to ensure it is delivered in a useable format to inform the strategic plan	2	1
7	Inability to obtain SMEs with appropriate expertise	Schedule and Performance	3	3	Medium	The Metabiota team will engage SMEs from across the scientific community to capture a larger range of expertise and specialization	2	2
8	Low integration of other U.S. stakeholders	Schedule	3	3	Medium	Metabiota will ensure continuous outreach and collaboration with U.S. partners to maintain open lines of communication	2	2
9	Underutilization of expatriate staff	Cost, Schedule & Performance	3	3	Medium	Metabiota will ensure that SMEs have adequate regional experience	2	2
10	Embassy health working group agendas	Schedule and Performance	3	3	Medium	Development of the assessment, targeted communication strategies and clear engagement activities will reduce barriers faced through competing agendas	2	2

11	Incomplete pathogen coverage	Performance	5	5	(b)(4); (b)(6)	The Metabiota team will engage SMEs from across the scientific community to capture a larger disease landscape that considers threats, as well as opportunities	2	2	(b)(4); (b)(6)

Management Approach

Introduction

Metabiota will employ its existing organizational leadership to interface with Regional Leads and Country Managers as needed to direct the operational and administrative support required to ensure implementation of the Regional Landscape Analysis. Our Southeast Asia Program Manager (b)(6) will oversee operations with the support of a Project Coordinator, Travel Coordinator, Research and Data Analysts and Subject Matter Experts to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Project Team Structure

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the Program Manager, Project Coordinator, Travel Coordinator, Research and Data Analysts, and Subject Matter Experts that will be tasked with specific assignments to support the development and implementation of the regional landscape analysis based on their administrative and scientific expertise. This team of experts will ensure the overall project management and tasks associated with the analysis are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.

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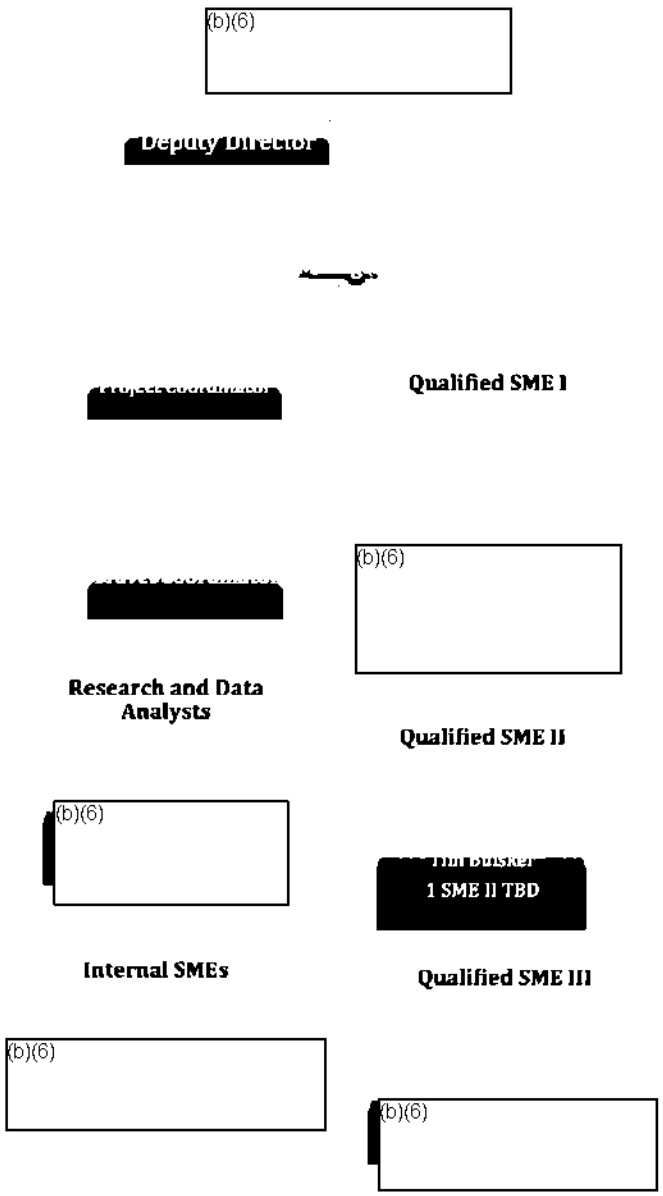
(b)(6)
Deputy Director
Qualified SME I
(b)(6)
Research and Data Analysts
Qualified SME II
(b)(6)
1 SME II TBD
Internal SMEs
Qualified SME III
(b)(6)
(b)(6)

Planning and Design

In communication and coordination with CBEP PACOM leadership, Metabiota will continue to develop the analysis-based strategy development framework required to complete the regional landscape analysis. The process involved in completing the analysis will include working group sessions where CBEP and Metabiota experts will continue to collaboratively build on and revise the previously developed framework and ensure that the collected research adequately addresses and assesses the comprehensive disease and engagement landscape of the region.

To complete the analysis, Metabiota will continue to engage its cadre of SMEs to populate the tool with relevant information. In addition, the team will continue to further enhance and refine questions and context required to address the complete regional picture with CBEP goals in mind. Throughout the research and revision process, Metabiota will engage CBEP for review and approval of the design, structure, and content prior to moving forward.

To complete the analysis, Metabiota will engage:

Research and Data Analysts- to conduct basic research using readily available, open-source information to inform the regional analysis.

SMEs (I, II, III)- to provide their regional expertise in the form of narratives and graphics to build upon the basic research component and already included information. Provide QAQC measures to collected information validating results. We will utilize SMEs in a layered approach based on their level of experience and particular area of expertise. SMEs at level I will validate information gathered by RDAs and ensure that the information is scientifically sound. SME IIs will use their expertise in a broader regional context or across a functional area - for example, epidemiology, microbiology, or disaster preparedness and response, to provide greater focus and context to the analysis. SME IIIs, who have a minimum of 7-10 years of experience in a specialized field, will provide oversight and expertise from their years of direct experience in their chosen field, and will validate, and QAQC material gathered by other researchers. In addition, they will be retained for their level of expertise in a specific field that requires an advanced level of expertise to build out both quantitative and qualitative requirements to complete the analysis.

Internal Collaborators – Metabiota SMEs working outside of the scope of the PACOM project and have regional expertise within the region will be utilized to further elaborate on the landscape and engagements.

Metabiota will follow up this engagement by ground-truthing facts gathered through basic research and engagement of technical SMEs to validate the data and expand on the information received through this process, whenever possible. In addition, Metabiota will maintain routine communication with CBEP leadership and CMs to coordinate external actions targeting areas of overlap to limit redundancy of efforts, and identify opportunities for synergistic engagement.

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Execution

The core project management team will maintain oversight and implementation of the project at all times and will ensure rapid execution of the regional landscape analysis, tracking objectives to ensure the project stays within budget and on schedule. The project will be managed according to the phased implementation plan and will be course corrected as needed to ensure target end goals are reached. The following tools will be used to guarantee the project schedule will be maintained:

Project Administration:

1. Weekly team meetings and conference calls will be held to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Coordinator and will include the PM, SMEs, Research and Data Analysts, and AEP leadership, as needed based on the requirements and stage of implementation.
2. Routine communication to include emails, conference calls, and in-person meetings will be held with CBEP Regional Leadership and Metabiota to provide status updates and ensure course correction through the assessment.

Project Reporting:

1. Weekly status reports will be provided by the PM to senior MB leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction, as needed to ensure training goals are met.
2. Metabiota will provide weekly status reports to CBEP regional leadership to maintain visibility on project achievements and in support of routine in-person meetings.

Monitoring and Controlling

1. Routine risk assessment will be performed internally among the MB project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with CBEP Regional Leadership to ensure the project remains on track and is implemented according to standard.
3. Routine oversight and coordination will be performed to ensure successful execution of the regional analysis. Monitoring will include both administrative and fiscal oversight.

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Completion

Maintaining a focused project schedule and achieving targeted objectives through the continued coordination of routine meetings, working groups, and open communication with CBEP Regional Leadership, Metabiota will drive the project to completion by 31 October 2015, with the option to build out and populate a regional disease landscape and engagement dashboard. Following completion of deliverables, review, final validation, a back-and-forth dialogue with CBEP Regional Leadership, and presentation of the analysis, Metabiota will provide after-action reports, debriefings, and follow-on meetings to allow for lessons learned and continuation of solid execution and implementation of activities. Metabiota believes that the experience and management it will bring to this project as well as the continued expertise and support provided by the CBEP team will guarantee success.

Technical Approach

Introduction

Given that DTRA CBEPs mission is to reduce the risk of biological threats, Metabiota will employ a risk-based approach to support CBEP PACOM in the development of the multi-year engagement strategy. The building blocks of this risk-based landscape analysis are the pathogens of concern, the factors that impact the likelihood and severity of an event occurrence, and the policies, practices, and initiatives that aim to mitigate the biological threats present. In

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order to inform CBEP PACOMs engagement strategy, Metabiota's approach is designed to fully elucidate the risks present, and show areas where CBEP can engage at the lowest cost to achieve the highest impact. Our approach parses the biological threat environment into potential naturally occurring, accidental, and intentional biological events. By doing so, it allows for the characterization of the event by specific factors that impact the likelihood and severity of that specific events occurrence, which in combination with the identification of priority pathogens enables us to identify the baseline risk present for the region of specific biological event scenarios. With the establishment of baseline risk, we are then able to identify and characterize the capacity to prevent, prepare for, respond to, or recover from the specific threat scenarios by analyzing the stakeholders, networks, initiatives, and organic regional capabilities. Once that is done, it allows us to graphically depict the residual risk, as well as identify gaps that DTRA CBEP can target within the region and characterize potential approaches to fill the gaps.

Metabiota will, in coordination with DTRA CBEP PACOM, develop and execute a targeted, analysis-based strategy development framework to collect the regionally relevant information and inform strategic planning.

The analysis-based strategy framework will:

- Facilitate an assessment that captures regional data and analyses to build a 5+ year roadmap/ strategic plan for CBEP engagement
- Address current capacities, capabilities, and gaps in partner country bio-surveillance and biosafety and security systems
- Collect sufficient, usable data to internally identify the appropriate end-states
    - End state: an agreement between CBEP and participating country resulting in "buy-in" for future engagement
- Be a tool to map out and inform the development of consistent, over-arching regional guidance to support country engagement activities
- Incorporate an iterative process between Metabiota and DTRA CBEP, with opportunities for feedback and course-correction
- Be adaptable and scalable to address other regional DTRA needs, or encompass new information as it arises, while achieving the end-state of informing a strategic plan

<u>The framework will not:</u>

- Be an implementation plan, but will inform the DTRA CBEP developed strategic and implementation plan
- Will not duplicate or be redundant to the country assessment tool
- Be an accumulation of country baseline assessments
- It will not dive deep into the gaps and linkages in BS&S, BSV and CBR capabilities across partner nations in the PACOM AOR.

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The Metabiota team will perform the regional landscape analysis through a collaborative process that incorporates expertise from academic leaders, other government agencies, international partners, and both regional DTRA CBEP leadership and CMs, and is facilitated through the Academic Engagement Partnership (AEP) Program contract.

Communications Protocols

Metabiota will maintain open communications with CBEP to ensure full visibility on the status and process of completing the analysis. In order to collect the necessary information for completing the Regional Landscape Analysis report, the DTRA CBEP program office will facilitate communications with external stakeholders and participate in communications internal to Metabiota with stakeholders that spend much of their time in support of in-country programs with USAID, DHAPP, and other entities. Metabiota will inform the appropriate DTRA CM and Regional Leads of every intended conversation with U.S. Embassies, other U.S. Government organizations, country representatives, ministries, and other stakeholders no later than five business days prior to the intended date. Metabiota will develop and submit meeting agendas no later than three business days prior to meetings. As with all AEP communication, Metabiota will record meeting minutes for each communication and make them available to DTRA as part of the Monthly Report, if required. Additionally, Metabiota will include a DTRA CBEP representative on all communication to external stakeholders.

Metabiota will used a tiered engagement approach to seek out information via teleconference and in-person interviews (if appropriate) to fill gaps identified in the open source research conducted by Metabiota SMEs. As specific gaps are identified, Metabiota will review the source list of POCs and determine engagement based on area of expertise to solicit targeted information.

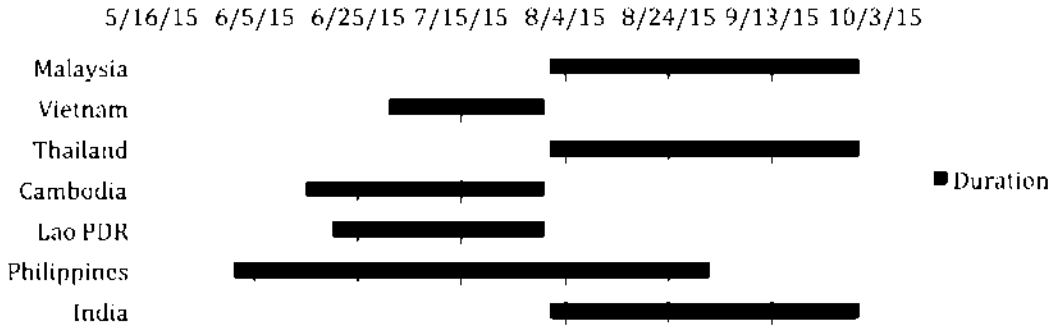
Metabiota will follow the below engagement protocol to ascertain the necessary information. If information can be gained by interviewing Tier 1 POCs, Tiers 2-4 will not be engaged. If Tier 1 POCs cannot supply all the needed information, Tier 2 POCs will be contacted, and so on down the list. Metabiota will attempt to work through internal mechanisms first to maintain targeted external engagements, and will only contact external POCs as critically necessary.

Metabiota will engage SMEs in the following order:

1. **Internal Metabiota SMEs (not participating in the PACOM assessment)**: Metabiota SMEs not actively participating in completing the assessment will be interviewed based on their regional expertise and engagement (ex. (b)(6) Director of PREDICT and (b)(6)
2. **Internal DTRA CBEP SMEs (Country Managers – utilizing Country Tool or coordinated interview engagement)**: Coordinated engagement with Country Managers using country tool or collaborative interview process during completion of country assessment, dependent on timing and pre-approved communication protocol.

3. **Consortium Partners and Regional Collaborators**: Metabiota will interview consortium partners and collaborators based in the US and abroad with active regional experience and engagements (ex. EcoHealth Alliance, UC Davis).
4. **Country-Specific Collaborators**: Metabiota will interview country-specific partners dependent on specific information that needs to be garnered to answer regional questions following the above engagements. Metabiota will coordinate with CMs to identify and notify them, per communication protocols, individuals for engagement in specific countries. Metabiota will coordinate with Subcontractors completing country assessments, where appropriate to collaborate on interviews to reduce duplication and the need to reach out to other in-country partners. Where that is not possible, Metabiota will submit a list of identified individuals and a call schedule to the CM and Regional Lead for approval prior to engagement.

Our general timeline for country engagement follows a staggered approach, allowing for time for CMs to socialize with in-country partners and review proposed questions for POCs, as well as allow Metabiota personnel to work with Country Managers to integrate Country assessments, coordinate interviews, as appropriate and sensitize the regional analysis to ensure proper engagement across the region.



Phases of Technical Approach

Phase 1: Continued Research and Active Engagement – Input from SMEs and Internal Partners
Phase 2: Validate, Expand, and QA/QC Analysis
Phase 3: Complete Gap and Approach Analysis, QA/QC, and Review
Phase 4: Post-Analysis: Internal Briefing, CM Briefing, Regional Leads Briefing
Phase 5(Optional): Populate Dashboard Tool

There will be five overarching phases to the technical approach. In Phase One, Metabiota will continue to engage RDAs and SMEs to conduct open-access research using published literature, stakeholder websites, and any other online resources available to source and gather information. Information will be narrative in format and will include graphs, maps, charts and other critical quantitative depictions of the information gathered. Information will be stored in an internal cloud-based server, so that it can be readily accessed and referenced by project personnel.

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Researchers will be broken into teams, according to their areas of expertise, and will be assigned sections of the analysis to complete. Information will be uploaded on a weekly basis. In addition to sourcing open access information, expertise from Metabiota technical SMEs, and partners in the US will be used to build on open source research and drive the completion of the analysis. SMEs will be engaged, as-needed to complete sections of the analysis, speaking to their regional or academic knowledge and specifically related to their areas of expertise. This will ensure validity of the information, and integrity of the analysis. Metabiota's SMEs represent all related disciplines and have decades of expertise in areas such as public health, epidemiology, virology, microbiology, cultural anthropology, international affairs, medicine, disaster preparedness/response, veterinary medicine, infectious diseases, and health informatics, among others. Information gathered will be reviewed weekly and will be provided routinely to CBEP regional leads for their visibility and use in course correction.

In Phase Two of the project, Metabiota will validate, expand, and QA/QC the analysis. This will be completed through the engagement of CBEP SMEs, regional collaborators, and country-specific collaborators, when necessary and appropriate, to further enhance specific components of the analysis and include expertise and knowledge not available through open-source networks. The team will coordinate with CMs to share information and avoid duplication of efforts as respective country assessments are completed, to include participating in joint interviews with in-country collaborators. Metabiota will work to address any country-specific concerns that fold into the analysis (ex. Animal trade across borders in Lower Mekong Delta Region), as requested by individual CMs. The team will provide CBEP with a list of potential POCs, Engagement Plan, questions to be asked/gaps to be addressed with individual POCs, allowing for time for CBEP to socialize with in-country POCs as needed. Metabiota will work with CMs to ensure that interview questions are consolidated, so that interviews can be as efficient as possible. Additionally, Metabiota will ensure that CBEP CMs and Regional Leads have full visibility on all potential in-country contacts, topics to be discussed, and availability to be present for interviews as desired. Once CBEP has granted approval to move forward and POC interviews are conducted, Metabiota will provide interview notes to CMs and Regional Leads.

During this phase, Metabiota will consolidate all of the baseline information gathered in the creation of the Pathogen Profiles, Likelihood and Severity Factor (L&S) Profiles, and Stakeholder, Network, and Initiative Profiles into an overall view of the Regional Disease Landscape and Regional Capacity Landscape. The Disease Landscape will divide the pathogens of concern into potential origins of a threat event including intentional, naturally occurring, and accidental use, and provide a targeted overview of pertinent regional information. The Capacity Landscape will provide the relevant information regarding regional disease detection, diagnostics, and reporting, BS&S, and cooperative biological research capabilities. Factors included in the profiles, and further identified in the capacity and disease landscape analysis will be weighted accordingly within a scenario driven approach that identifies areas of risk, and will show areas of opportunity that would reduce risk and provide a platform in which to define metrics for mitigation. This will be further articulated through the completion of the gap and approach analysis during phase three.

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In addition, Metabiota will begin the QA/QC process to ensure accuracy and completeness of information, as well as editing and design of the document. This process will take place throughout Phase two and three, to guarantee validity, clarity, and integrity in the information gathered and presented in the final analysis.

Phase Three of the project will consist of reviews of gathered information to ensure accuracy and completeness, and confirm that information meets quality standards. Metabiota will engage SMEs, RDAs, graphics support personnel, and leadership teams to conduct multiple review and editing cycles of the analysis in order to ensure accuracy and completeness of the information gathered. Additionally, the team will conduct a gap analysis to collect information that could not be confidently assessed during the previous phases. The Gap Analysis will address gaps across multiple areas including disease detection, diagnostics, and reporting, BS&S capacity, geographic coverage, and understanding of specific pathogen characteristics. The team will use all of the baseline information gathered, the Disease and Capacity Landscape sections, and the Gap Analysis in order to create an Approach Analysis that will identify proven techniques that can be leveraged or emulated to achieve CBEP objectives. This section will address capacity building activities, increasing sustainability, increasing compliance, fostering meaningful collaboration, and increasing the scientific body of knowledge.

In addition, the gap analysis will speak to acknowledged gaps in the analysis, itself, identifying areas where information could not be sourced or located, and recognizing specific areas of the report where further research would be required. As well, using SME expertise, Metabiota will determine the underlying confidence in the collected information to ensure the accuracy of the analysis. The gathered information will be classified into three categories, and color-coded for easy reference:

1. Green- Information is known or verifiable
2. Yellow- Information is directly accepted, but not directly verifiable
3. Red- Information cannot be verified or is inference-based

This will visually depict the confidence in the gathered data and will support the accurate completion of the approach analysis.

While completing the Gap and Approach Analyses and continuing to review and rework the collected material as needed, the team will collaborate with individual CMs in order to provide beta testing of compiled information. CMs insight into the level and type of information gathered will be critical to ensuring a robust analysis that both provides regional insight and meets CM need at a country-specific level.

Phase Four of the project will consist of a post-analysis of the assessment with in-person briefings provided to CBEP CM and Regional Leads, and other identified stakeholders as directed by CBEP.

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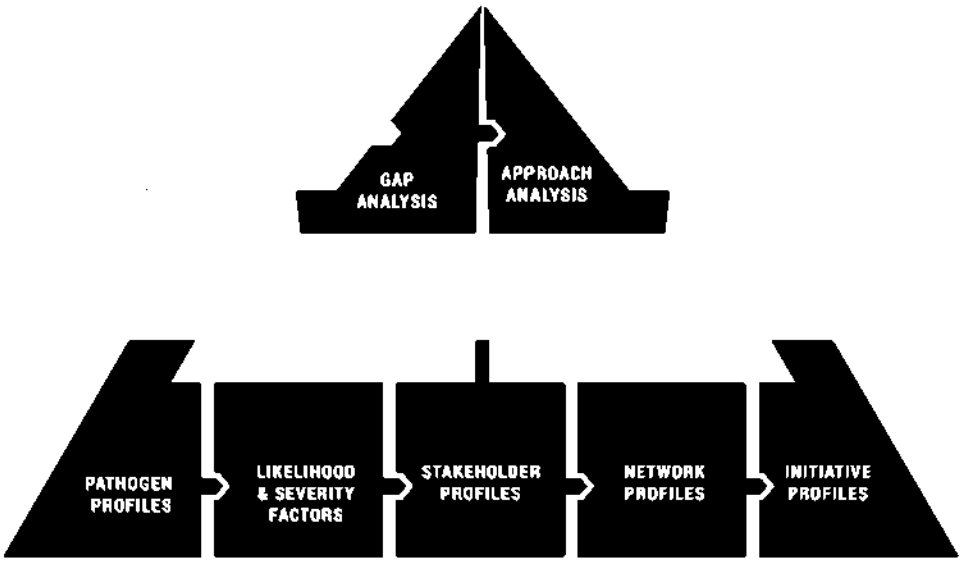
In Phase Five (Optional) of the project, Metabiota will create a dashboard tool that will provide CBEP with data on disease outbreaks and spread presented in a powerful and insightful way. Metabiota's core competencies of data analysis visualization and risk assessment and mitigation strategies will drive the establishment of a tool for CBEP's continued use.

Our process, illustrated:



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Timeline and Milestones

Continued Research and Active Engagement - Input from SMEs and Internal Partners

Validate, Expand, and QAQC Analysis

Disease and Capacity Landscape Drafts Completed

- Gap & Approach Analysis, Final QAQC and Review

QAQC Completion, Gap and Approach Analysis Draft Completed

Independent Review, Revisions

Continued Revisions Following QAQC and Integrating CBEP Feedback

Draft Analysis Due

Post-Analysis: Internal Briefing, CM Briefing, Regional Leads Briefing

A copy of the updated timeline and milestones for the project will be provided via Smartsheet, and updated regularly to include an updated status and completion percentage for each section of the analysis. Key milestones and dates for the project are subject to change, but currently include:

- Basic Research Completed 7/30/15
- Disease and Capacity Landscapes 7/30/15
- Gap and Approach Analysis Drafts 8/21/15
- QA/QC Completion Date 8/21/15
- Independent Review 8/28/15
- Draft Deliverable Due 9/1/15
- Continued Review and Revisions Following QA/QC and CBEP Feedback 9/1/15-9/30/15
- Final Deliverable Due 10/1/15

Phase 1 – Continued Research and Active Engagement – Input from SMEs and Internal Partners (16 May – 30 July)

Objective: Completion of the targeted, informed baseline regional analysis identifying regional capabilities, capacities, enhancements, and gaps in regional BS&S systems to inform the CBEP strategy, with a focus on risk analysis and mitigation.

Process: During this phase, Metabiota will conduct open-access research using published literature, stakeholder websites, and both expertise from Metabiota technical SMEs and partners in the US to continue compiling and completing the regional analysis. Metabiota will hold regular working groups with CBEP Regional Leads to solicit feedback and review of the analysis and to course correct as needed.

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Deliverables: Submission of a working draft of the analysis as well as regular document section reviews.

Phase 2 – Validate, Expand, and QA/QC Analysis (8 June – 31 August)

Objective: Engage DTRA CBEP SMEs, Regional Collaborators, and Country-Specific Collaborators to further enhance specific components of the analysis and include expertise and knowledge not available through open-source networks.

Process: Metabiota will coordinate engagement and cultivate synergies with Country Managers during completion of ongoing in-country assessments, depending on timing and pre-approved communication protocol. Upon CBEP approval, Metabiota will engage consortium partners and collaborators based in the US and abroad with active regional experience and engagements (ex. EcoHealth Alliance and UC Davis). Metabiota will identify gaps in available information and coordinate with CBEP Leads to plan, review and approve any and all communication with in-country collaborators. Additionally, Metabiota will conduct CBEP-desired ground-truthing exercises to include working groups, symposiums, table-top exercises, and site visits with in-country partners, technical SMEs, DTRA CMs, and other key stakeholders to validate, expand and provide deeper insight/guidance for completion of the tool. In addition, Metabiota will begin QA/QC analysis of the gathered information.

Deliverables:

- Submission of a working draft of the Engagement Protocol for review as well as regular document section reviews.

Phase 3 – Complete Gap & Approach Analysis, Final QA/QC and Review (15 July – 30 September)

Objective: Complete the gap and approach analysis. Review gathered information for accuracy and completeness, and ensure that information meets quality standards. Edit for content, clarity, and style.

Process: Metabiota will engage SMEs, RDAs, graphics support personnel, and leadership teams to conduct multiple review and editing cycles of the analysis in order to ensure accuracy and completeness of the information gathered. Information will be weighted according to confidence and validity ensuring integrity in the final product. Congruently, Metabiota will complete the gap and approach analysis, and will work with CBEP to ensure the final deliverable format and presented information is captured in a way that meets CBEP needs.

Deliverables:

- Complete Regional Baseline Analysis report to inform CBEP's strategic objectives.

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Phase 4 – Post Analysis: Internal Briefing, CM Briefing, Regional Leads Briefing (1 – 31 October)

Objective: Complete regional landscape analysis and present it to CBEP Regional Leadership. Present analysis and potential for follow on in briefings to CM and Regional leadership, and others, as identified and requested by CBEP.

Process: Metabiota will complete the regional analysis, and present it to CBEP leadership, personnel and other identified stakeholders, as directed by CBEP via briefings, and in-person presentations.

Deliverables:

- Briefings to CBEP team members.

Phase 5 (Optional) – Populate & Develop Dashboard Tool (1 November 2015 – 15 May 2016)

Objective: Population of Interactive Layered Dashboard Tool

Process: Metabiota will create a powerful, layered dashboard tool that will provide CBEP with data on disease outbreaks and spread presented in a powerful and insightful way. Being able to better visualize epidemic and biological threat risk in the PACOM region will provide CBEP with unparalleled outbreak surveillance and risk analysis capabilities, will enable CBEP to more effectively and efficiently respond to regional disease risks, and will facilitate a more impactful strategic engagement plan in upcoming years.

Deliverables:

- Provide CBEP with a populated dashboard tool that contains all relevant information.

Metabiota Key Personnel

(b)(6) Deputy Director

(b)(6) is the Deputy Director of the Academic Engagement Partnership (AEP) Program and an Internationally Certified Emergency Manager (CEM®) with 14 years of experience leading, managing, and consulting on the full spectrum of Counter Weapons of Mass Destruction (CWMD) operations and Chemical-Biological Defense programs, as well as research and development in support of joint task forces, special operations forces, other government agencies, and the Department of Defense on the strategic, operations, and tactical level. (b)(6) driven leader with a proven track record of building value with partners through the identification of capability gaps, and the development and validation of effective solutions

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to the unique challenges faced when dealing with Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) threats. In addition, he is well versed at risk analysis and management, strategic planning, policy analysis and political engagement.

(b)(6) outheast Asia Regional Program Manager

(b)(6) s the Southeast Asia Regional Program Manager of the Academic Engagement Partnership (AEP) Program with over eight years experience as a global health project / program manager, with a focus in SE Asia regional activities, having lived and worked in Cambodia for four years supporting DoD efforts in the region. Since joining Metabiota in 2010, she has managed DTRA CBEP engagements in West and Central Africa, to include Ebola response efforts, as well as spending three years as the Program Manager on projects funded by USAID, AFHSC GEIS, BEP, NIH, USAMRIID, and HJF spanning all regions of Metabiota engagement.

Subject Matter Experts 1

(b)(6)

(b)(6) olds a PhD in Health Economics, Health Services and Policy Research from the University of Alberta School of Public Health. He has served as a Health Economist for the Institute of Health Economics, and also as a Lecturer in Health Economics at Hanoi Medical University (b)(6) s an IAS/NIDA Research Fellow in Health Economics, Drug Abuse and HIV/AIDS for the Johns Hopkins Bloomberg School of Public Health. He has extensive experience consulting for various international and governmental organizations including the World Bank and United Nations agencies, on global health and development issues in Southeast Asia. Much of his work focuses on determining cost-effective interventions, assessing health services and innovations, and strengthening health systems, particularly related to HIV/AIDS and emerging diseases within the region.

(b)(6)

(b)(6) has more than 10 years in infectious disease research, with graduate coursework in epidemiology and public health. She has designed, conducted, and analyzed experiments that directly contributed to the funding of a successful R01 grant application resulting in $1.25 million in funding over five years. She most recently served as a research fellow for the Laboratory of Infectious Diseases at the National Institute of Allergy and Infectious Diseases, National Institutes of Health. Previously, she served as a Quality Control Biochemist at INOVA Diagnostics.

(b)(6)

(b)(6) experience as a program manager and intelligence analyst with eight years of

in-country experience in conflict zones and transitional areas including North Africa, the Middle East, Central America, and the Andean Region. He has an MA in International Affairs from Tufts University, and has worked as a Graduate Intelligence Analyst at MetLife Global Corporate Security in the Intelligence and Risk Analysis Division. He also has experience in using Geospatial Information System (GIS) software to assess crisis response for high-threat/high-risk scenarios, configure corporate contingency plans, and create briefing documents.

(b)(6) roject Coordinator

(b)(6) will be engaged as the Project Coordinator for this effort. She joins the team following completion of an MBA with experience in project controls, coordination, strong writing and editing skills and will bring a business approach to the project, keeping track of all deliverables, scheduling, and facilitating coordination with both internal and external stakeholders. In addition to her business expertise (b)(6) worked as a Data Technician and Interviewer for NIH/CDC sponsored studies, while completing her undergraduate work at Duke.

(b)(6)

(b)(6) s a Research and Data Analyst supporting the Academic Engagement Program. Before joining Metabiota she worked as a Health Consultant with UNICEF-Liberia for two and half years where she coordinated the implementation of community based maternal, neonatal, and child health interventions. While earning her MPH, Elma was a Graduate Research Assistant for the Mercer University Center for Rural Health and Health Disparities where she conducted qualitative and quantitative data collection and analysis, supported local government and NGOs with policy development and implementation, and was a Research Intern at the Centers for Disease Control and Prevention.

(b)(6)

(b)(6) has over 10 years of experience developing, conducting, and managing public health research projects, as well as transforming research questions into operational study protocol and building data systems infrastructure. He holds an MA and PhD from the New School for Social Research and has served as a researcher for the Substance Abuse Unit, Department of Public Health in San Francisco, as well as the Center for AIDS Prevention Studies, University of California San Francisco.

(b)(6)

(b)(6) has over 10 years of experience in the public health sector, specifically in EMS emergency management and health education. He holds an MPH in Public Health, as well as a Graduate Certificate in Emergency Preparedness and Response. He has served as a Jurisdictional Coordinator at Hassett Willis & Company, Adjunct Faculty at the Loma Linda

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School of Public Health, and as a Regional Disaster Medical Health Specialist for the Riverside County Department of Public Health.

Subject Matter Experts II

(b)(6) a biomedical scientist and science communicator with 10+ years of research experience in the microbiology, immunology, epidemiology, and pathogenesis of infectious diseases. She is also involved in global health and science outreach, advocacy, and communication, including through social media. She has extensively written and published her research in academic journals and presented at international scientific meetings, and has composed technical reports on leading topics in global HIV epidemiology and program implementation. She has served as a science writer/communicator/content producer for the World Bank Global HIV/AIDS Program as well as Independent Global Health and Science Consulting in Washington, DC, and was named one of the "100 Women Leaders in Global Health" by The Graduate Institute Geneva in 2014.

(b)(6)

(b)(6) a DVM from the University of California, Davis School of Veterinary Medicine, a PhD in Comparative Pathology and Viral Pathogenesis from the University of California, Davis, and an MS in Disease Ecology/Population Biology from the University of Virginia (b)(6) previously worked as an Instructor at the University of Virginia, and a Guest Instructor at the University of California, Davis. She has been a key member of several CDC Outbreak Response Teams: the Ebola Hemorrhagic fever outbreak response team in Kenema and Bo, Sierra Leone in 2014; the Marburg Hemorrhagic fever outbreak response team in Kabale, Uganda in 2012; the Filovirus Bat Ecology Team in Kitaka Mine, Uganda in 2012; and the Rift Valley fever virus Vaccine Initiative team in collaboration with Deltamune Pty., South Africa in 2010.

(b)(6)

(b)(6) xperience includes three years as an epidemiologist and program evaluator with the SC Department of Health and Environmental Control as well as a combined eight years of emergency preparedness and response experience including positions with a disaster preparedness and education firm, Emergency Medical Technician, and leading disaster response and recovery teams. (b)(6) s an experienced writer, researcher, and mixed methods evaluator with expertise in quantitative and qualitative data collection, analysis, presentation and grant writing.

(b)(6)

(b)(6) is a Data Manager with varied experience in biostatistics, statistics consulting, and data analysis. He holds an MPH in Epidemiology/Biostatistics and a PhD in Epidemiology from UC Berkeley. His dissertation was on health outcomes after low CD4 cell count and mathematical models of HIV transmission. Dr. Buisker has served as a Data Manager for the University of California, San Francisco and a Statistical Consultant for Metabiota. He has also served as an Assistant Statistician for the University of California, San Francisco and for RTI International.

TBD SME II

Subject Matter Experts III

(b)(6) – Senior Scientist

(b)(6) received his BA in Biology at Earlham College, his MD at Michigan State University, his MPH at Harvard University, and his MS in Biostatistics at Harvard University. He has most recently served as a medical epidemiologist and Health Informatics Branch Chief for the CDC's Global Aids Program (GAP) at the American Embassy, Lusaka, Zambia. As the Health Informatics Branch Chief (b)(6) directed the initiation, funds procurement, staffing, design, development, and national deployment of the SmartCare Electronic Health Record (EHR) System for a decade, growing to service over 770 facilities and more than 1,000,000 persons (>500,000 HIV positive), and collaborating with over 20 implementing partners.

(b)(6) has previously worked as a Medical Epidemiologist for the Centers for Disease Control and Prevention in Zambia covering three areas: surveillance activities including continued monitoring of the HIV epidemic in Zambia through HIV & Syphilis Antenatal Clinic Sentinel Surveillance (ANC SS) for 2006 and 2008, and the newer concerns of HIV drug resistance monitoring, drug resistant tuberculosis, and avian influenza; monitoring and evaluation (M&E) of PEPFAR program activities as part of a rapidly expanding CDC-Zambia budget (from $3M to $100M in five years); and managing the Information and Communications Technology (ICT) systems infrastructures for rapidly growing staff, nationally distributed offices, and new USG WAN security certification requirements.

(b)(6) Epidemiologist

An infectious disease epidemiologist with over 10 years of experience in development and implementation of epidemiologic and clinical research studies in international settings. She currently serves as the scientific technical lead on epidemiologic studies of various infectious diseases, including Lassa fever and Ebola, to characterize the morbidity, mortality and risk factors associated with disease and clinical outcome. Her vast experience includes clinical project management during the translational phase from pre-clinical studies through to implementation of Phase 1/2 clinical trials, with focused experience in managing all aspects of

clinical trials related to infectious diseases including pre-clinical toxicology studies, cGMP manufacturing, IND submission, clinical study design and protocol development, ICF and CRF development, IRB submissions, clinical trial conduct, immunological analysis, database development, statistical analysis, interpretation of results, and manuscript preparation.

(b)(6) Director of Behavioral Sciences

(b)(6) s a Medical Anthropologist with extensive experience coordinating behavioral research projects at sites in Asia, Africa (Cameroon, Gabon and DRC) and the US.

She has vast knowledge in planning field engagement and leading field teams in conducting formative research, integrating social scientific methods including key informant interviews, focus groups, behavioral trials, and other qualitative approaches with high-risk populations, including bushmeat hunters, butchers, vendors, and consumers; sex workers and the military throughout Central Africa.

(b)(6) enior Scientist

(b)(6) joined Metabiota in April 2013 as an expert on Emerging Diseases and Biosecurity. As a medical researcher and formerly Research Director for the French Institute of Research for Development (IRD, Marseille, France), he has spent his career working in and for developing countries of South America, Africa and Asia (1979-2012). His areas of focus include viral disease epidemiology, virus ecology, arboviruses, viral hemorrhagic fevers and understanding fundamentals of disease emergence. Since the late 70s, he has led international teams with partner institutions in developing countries, as well as teams of virologists at the International Network of the Institute Pasteur (Dakar, Senegal; Bangui, Central African Republic). Dr. Gonzalez worked for several years as a guest researcher at the Special Pathogen Branch of the Centers for Disease Control and Prevention (CDC) in Atlanta (Georgia, USA), as a visiting scientist at the Arbovirus Branch of the CDC in Fort Collins, and as a visiting professor of Epidemiology and Public Health at the Yale School of Medicine (New England, USA). In addition (b)(6) as worked to enhance high security laboratory practices and research (CDC, Yale), and on the early development of geographical information systems applied to Public Health and Infectious Diseases (Yale). From 1997 to 2007, he was invited to Mahidol University in Thailand as a visiting professor of Microbiology, where he founded the Research Center for Emerging Viral Diseases and developed a Technical Platform for the study of Emerging Vector-Borne Diseases (b)(6) has developed several innovative concepts including the evolution of viruses on the geological time scale and co-evolution as a general mode of evolution, among others.

(b)(6)

s an experienced leader in both the strategy and execution of data visualization with degrees in engineering, visual communication, and computer science. He has served as the lead UI/UX Designer for the Bates Creative Group as well as the Founder/Creative & Art

Director for Creative Manner Design Studio. His focus includes graphic design, map design, and user interface design, and his expertise includes Illustrator, CSS3, HTML 5, corporate branding, both graphic and print design, art direction, and brand development.

Research and Data Analysts

(b)(6)

(b)(6) joined Metabiota after completing her MPA in International Management. She has five years experience working in international development abroad and domestically, ranging in scope from a macro-level international development bank to micro-level grass roots development work. Her areas of expertise include project coordination, monitoring and evaluation, and event logistics. Before joining Metabiota she worked for two and a half years in rural Mozambique as a Community Health and NGO Development Volunteer with the US Peace Corps, implementing public health projects with local community health clinics and international donors.

(b)(6)

is a Research and Data Analyst supporting the Academic Engagement Program. She graduated magna cum laude from Wake Forest University in 2014 with an undergraduate degree in Politics and International Affairs. While earning her degree, Meredith was a research assistant analyzing the content and context of changes in the constitutional status of citizenship in Latin America. Her extensive undergraduate thesis earned her departmental honors.

(b)(6)

comes from a strong and varied research background, with first-hand experience both in the lab and in the field in ecology, evolutionary genetics, and virology. From her experience working at the leading edge of pandemic influenza research at the National Institutes of Health, she brings knowledge of the latest developments in the field. She is also skilled in the planning and implementation of environmental monitoring of large facilities as well as employee compliance through her work at an FDA-regulated contract lab.

(b)(6)

(b)(6) raduated from Yale University in 2014 with a BA in Environmental Studies, and is currently pursuing her MPH in Environmental and Occupational Health Sciences at the University of Washington. She has served as a Research Assistant at the University of Washington – Department of Environmental Health Sciences Microbiology Laboratory, as well as a Research Scientist at the Yale University School of Public Health. Her relevant coursework includes: Infectious Diseases of International Importance, Epidemiology, Global Health, and Environmentally Transmitted Microbial Hazards.

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Metabiota Internal SMEs

(b)(6)

(b)(6) earned his Ph.D. in the field of molecular genetics at Rice University, before taking the role of Director of Research at mAbGen. There, he designed and built the prototype of their technology platform, a novel device to accelerate early stage drug discovery. The team's work spanned many scientific fields and resulted in a peer-reviewed scientific paper. In conjunction with the CEO (b)(6) set the company's strategic direction, evaluated competing technologies, and assessed larger biotechnology and pharmaceutical companies as potential strategic partners or acquirers for their technology. He also served as an Associate at Booz Allen Hamilton, where he provided strategic, policy, and technical advice toward reducing the threat of global disease outbreaks. Parts of these duties included the assessment, development, and management of international biological research programs funded by the US Department of Defense. He also facilitated discussions with key individuals in US and foreign government agencies and the private sector.

(b)(6) Director of PREDICT

(b)(6) recently joined the Metabiota team as the Director and PI for the USAID funded PREDICT program operating in Africa and Southeast Asia, and Metabiota's Director of Epidemiology and Information Management. (b)(6) comes to Metabiota following a successful tenure as Associate Director, Wildlife Health Monitoring and Epidemiology at WCS Canada. For his Ph.D. he studied how wolf predation and disease interact to affect the population dynamics of wood bison in northern Canada. His work focuses on wildlife diseases that either directly threaten wildlife conservation through impacts on wildlife demography, or indirectly threaten wildlife through human activities to control perceived or real threats to human or livestock health. He has worked on conservation / health issues like foot and mouth disease in Mongolian gazelles, bovine tuberculosis and brucellosis in American bison, chronic wasting disease in deer, and avian influenza in wild birds.

(b)(6) – Director of Surveillance, PREDICT

(b)(6) has many years experience working and living abroad providing operational and scientific research support in Africa and Asia related to emerging infectious disease. Her focus has been in the operational set up of research sites and managing surveillance operations. Her efforts have directly increased laboratory diagnostic capacity, as well as the capacity to control and respond to emerging infectious diseases in the countries that she has worked in. She now is the Director of Surveillance Operations for the PREDICT 2 program at Metabiota overseeing wildlife, livestock and human surveillance programs in over 8 countries across the globe. Corina was promoted to this position following 5

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years spent in Guangzhou, China managing Metabiota's China office and Southeast Asia regional engagements.

Metabiota External SMEs and Stakeholder Relations-Resources in Region (including, but not limited to):

UC Davis	Institut Pasteur	AAHL
Wellcome Trust	Mahidol University	Eijkman Institute for Molecular Biology
Eco Health Alliance	UTMB	BEP
WCS	WHO	
Duke NUS	US-CDC	
NAMRU-2	Host Country Ministries & NGOs	

Cost Management

The Metabiota team and all partners will maintain an acute focus on cost management to ensure that this engagement is delivered at a reasonable cost to the government. Our team will ensure accurate and responsive financial reporting and will facilitate cost savings to the Government wherever possible. Our team will facilitate cost savings by employing a multi-pronged strategy which includes utilizing globally matrixed staff to provide their expertise at key junctures and providing ramp-up/ramp-down capability through the use of independent consultants and part time/on call (PTOC) personnel to fill key roles for limited duration.

Budget Narrative

Period of Performance

The Period of Performance for this effort is 16 May 2015 to 31 October 2015.

Labor

Metabiota's support of this effort is based on the solid expertise and cadre of exceptional researchers and SMEs the organization has on hand, and has engaged to support this project. Critical to developing an informed, targeted, and useable analysis is the reliance on field-specific expertise to inform and drive the regional assessment using risk analytics, scientific rigor and in-depth research analysis coupled with QAQC measures to provide an informative, pointed landscape of the PACOM region that will support CBEP's 5+ year strategic plan and programmatic metrics. SMEs from a variety of disciplines have been and will be engaged to support this project to ensure all aspects of the analysis are captured to include the disease landscape, political and economic environment, legislation and governmental requirements, cultural, religious and behavioral practices, geographical and environmental issues, security concerns, and the interstices and overlapping confluence of aspects that make this a multi-faceted assessment recognizing and addressing a dynamic and changing landscape. Key to the development of this framework is driving it to an end state that will support CBEP's long-term

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mission in this area of operation. Metabiota's diverse team is dedicated to supporting this endeavor and bringing this project to completion. The experience of Metabiota's project management team, lead by (b)(6) is focused on achieving the desired end state and has built out the required labor to support this endeavor through rigorous recruiting and recognition of qualified experts. Team members supporting this effort are providing various levels of effort depending on their expertise and the required support needed to address specific components of the analysis. Utilizing a flexible schedule, and a cadre of team members, Metabiota can ramp up or down activity levels to address, build and support the needs required to complete this effort.

Costs for direct labor to support this activity is required for the following personnel:

Metabiota SEA Program Manage (b)(6) to oversee and execute the project to include management of the cost, schedule and performance. In addition, she will provide direct management and oversight of all project personnel to include labor and reporting, driving the project to completion.

Metabiota Project Coordinator (b)(6) will oversee the day-to-day activities of the project, as the key POC in Washington DC, supporting (b)(6) the overall execution of this work. She will coordinate daily with project staff, CBEP regional and country leadership to ensure they are provided routine visibility on the project to include coordination of in-person meetings, weekly reports, and analysis updates.

Subject Matter Experts 1, (b)(6) (b)(6) are required to provide experience and development, review, and adaptation of research documents and deliverables, as well as general research activities and facilitation of scientific collaboration.

Subject Matter Experts 2 (b)(6) and ye (b)(6) s are required to provide experience and development, review, and adaptation of research documents and deliverables, as well as general research activities and facilitation of scientific collaboration. This team is skilled in risk management, environmental studies, GIS, cultural anthropology, veterinary sciences and other related disciplines. This teams conducts open source research, validates the collected data, develops pathogen profiles, socio-economic, behavioral, and cultural components of the landscape, as well as provides critical scientific writing and editing skills to ensure document flow and mapping of information.

Subject Matter Experts 3 (b)(6) (b)(6) u are required to provide extensive experience and development, review, adaptation of research documents and deliverables, data and mapping visualization support, as well as general research activities and facilitation of scientific collaboration. Experts at this level bring a breath of regional and international experience to the project specifically focused in their areas of expertise to include microbiology, virology, health informatics, medical anthropology, and data analytics. This team provides QA/QC measures to

validate the data, as well as being a critical part of the team in collecting and driving the strict research aspects of this assessment.

Research and Data Analysts, (b)(6) (b)(6) are required to conduct general research activities and assist in document review and editing. This team makes up the general open research group of the project providing much needed daily research into all aspects of the analysis and supporting SMEs in developing and building out the assessment.

Additional costs for direct labor supporting the Deputy Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office. Additionally, SMEs within the organization may provide subject matter expertise from time to time to validate collected information or provide regional accuracy based on their expertise. Their time in doing so is not being requested for this effort.

CLIN	NAME	LABOR CATEGORY	COST	16-31 May ACTUAL	June ACTUAL	July EST	Aug EST	Sept EST	Oct EST	TOTAL HOURS
1002	(b)(6)	Program Manager	(b)(6)	72	70	70	59	59	59	389
1002		RDA		62	151	126	84	80	0	503
1002		RDA		22	32	60	84	75	0	273
1002		RDA		64	15	26	25	20	0	150
1002		RDA		0	0	60	50	0	0	110
1002		RDA		63	91	25	0	0	0	179
1002		SME I (Project Coordinator)		90	249	269	164	164	151	1087
1002		SME I		51	95	100	100	100	0	446
1002		SME I		10	36	25	15	0	0	86
1002		SME I		0	64	15	15	15	0	109
1002		SME I		0	10	40	40	40	0	130
1002		SME II		40	80	0	0	0	0	120
1002		SME II		14	71	60	60	30	0	234
1002		SME II		5	12	15	10	10	0	52
1002		SME II		20.5	62	40	80	80	43	325
1002		SME II		0	5	32	50	50	0	137
1002		SME II		27.5	0	0	0	0	0	27.5
1002		SME II		0	0	0	80	80	0	160

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	(b)(6)		(b)(6)						
1002		SME III		0	0	0	25	25	0	50
1002		SME III		34	44	25	20	20	0	143
1002		SME III		52	139	123	68	50	0	433
1002		SME III		0	0	44	33	35	0	112
1002		SME III		0	43	10	10	10	0	73
1002		SME III		0	0	40	40	40	20	140
			Total	627	1268	1205	1112	983	273	5468

Labor Category	Total Hours	Total Cost
Program Manager	389	(b)(6)
RDA	1215	
SME I	1858	
SME II	1056	
SME III	950	
	Total	

Materials

EndNote is the industry standard software tool for publishing and managing bibliographies, citations, and references on the Windows and Macintosh desktop. We are requesting five EndNote licenses to support SMEs use of the software to accurately and professionally cite and reference all open source information gathered in support of this project. EndNote will standardize and format all citations in the document, reducing labor time and effort required for this endeavor. In addition, EndNote has networking capabilities allowing files to reside on a single server and the team to share references and results maximizing productivity.

Journal access is being requested to source critically valuable scientific information and publications providing key scientific findings and data supporting open source information gathering required to build out pathogen profiles and the disease landscape section of the regional analysis. Access to top journals includes Nature, New England Journal of Medicine, and the Journal of Virology.

Papers is an industry standard reference management software tool used to manage and organize references and maintain a library of PDF versions of scientific publications, as well as provides a uniform interface for document repository services, metadata editing, full screen reading and a variety of import/export capabilities that makes it easy to manage scientific resources. Five Papers licenses are being requested to support the online management and sharing of research publications contributing to the development of the regional landscape

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analysis allowing SMEs to maximize productivity through data management, sharing and standardizing library resources.

Graphic Services are being requested to support the development, design and completion of the regional landscape analysis to provide CBEP with a highly professional document that can be distributed according to CBEP protocol or requirements. Utilizing graphic services is required to support the layout and flow of the framework, while incorporating the required mapping, tables, charts, and quantitative information supporting the narrative text, in a way this easily understood, delivered and best utilized by the end-user, delivering a polished finished product.

Communication costs are requested to support project personnel during international travel to ensure communication with SMEs is maintained and that contact with in-country partners is facilitated, should it be necessary for supporting collection and validation of information pertaining to the regional landscape analysis. In addition, communication costs are requested to support routine Skype communications with domestic and international project personnel, and partners to maintain routine communication necessary for the management of the project, conduct interviews with SMEs and in-country collaborators to build out the analysis and ensure validation of information collected.

Office materials and supply costs are requested to support routine development of the landscape analysis to include printed materials for presentation and delivery to CBEP during bi-weekly meetings, presentations and documents for CMs, and in routine course-correction and evaluation of gathered material to facilitate the completion of the assessment. Office materials and supplies include CDs and thumb drivers, printer paper, printer ink, highlighters, pens, white board supplies, and other related materials necessary for the project.

Cloud-based document management licenses are requested for five users to support Metabiota's use of Box to manage all project documents in support of shared materials, productivity and ensuring version control among the project team. In addition, as many of Metabiota's SME's are remote, the cloud-based system provides an interface in which materials can be easily tracked, accessed and managed for optimal organization.

Video conferencing and SMART board licensing and communications are required for five users to support enhanced communications across the project and provide an interactive environment supporting a collaborative and "think-tank" work space to outline, design, develop, and continue to enhance the analysis framework allowing team members to compile notes, images and other media into virtual notebooks stimulating product development and achieving the desired end state of a polished, directed outcome in support of CBEP's mission.

Other Direct Costs

Per contract guidelines Defense Base Act (DBA) insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all personnel for the period of

performance for this engagement. In addition, DBA insurance will be secured for Metabiota personnel traveling internationally in direct support of the regional analysis.

Travel

At the request of DTRA, travel is required for (b)(6) Southeast Asia Program Manager to travel to New Orleans to attend PACOM meetings, as well as the American Society for Microbiology General Meeting and to conduct working groups with DTRA CBEP Regional Leadership.

Travel is requested for (b)(6) Southeast Asia Program Manager to travel to Washington, DC to support management of the overall project, to include engagement with CBEP Regional Leadership at in-person meetings to provide status updates and course correction, integration and management of SMEs and other project personnel, external partners and in support of synergistic efforts with subcontractors conducting country assessments.

Travel is required for (b)(6) Deputy Director of the AEP Program to travel to Manila, Philippines to attend the World Health Organization Western Pacific Regional Office (WHO/WPRO) Technical Assistance Group (TAG) meeting on the Asia Pacific Strategy for Emerging Diseases (APSED).

Conclusion

Metabiota is committed to supporting our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP PACOM in the implementation of the PACOM Regional Landscape Analysis. Through strong project management and risk mitigation, Metabiota will ensure that the analysis will be executed in an efficient and timely manner and will deliver a top-quality product geared toward supporting enhanced biosurveillance and biosafety efforts in the region.

Appendix A – Table of Contents

Appendix B – Pathogen Profile Example

Appendix C - Likelihood and Severity Factor Profile Example

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Appendix D – Stakeholder Profile Example

Appendix E – Status Update Powerpoint

Appendix F – Project Schedule

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Executive Summary

CBEP Strategic Objectives

Overview of Methodology

Summary of Risks

Known Gaps

Unknown Areas

Potential Approaches

Disease Landscape

Baseline Risk Matrix

Intentional Use Executive Summary
Discussion of factors that contribute to a higher probability and an overview of the pathogens that pose a threat for intentional use (potential scenarios)

International/Regional Attack (Large Scale)

Graphics for intentional use

- Table of high-risk intentional use pathogens in the region
- Previous intentional use in the region by pathogen, affected area and spread
- Storage locations within the region for intentional use pathogens
- L&S factor maps for intentional use

Non-State Actor (Medium Scale)

Graphics for intentional use

- Table of high-risk intentional use pathogens in the region
- Previous intentional use in the region by pathogen, affected area and spread
- Storage locations within the region for intentional use pathogens
- L&S factor maps for intentional use

Targeted (Small Scale)

Graphics for intentional use

- Table of high-risk intentional use pathogens in the region
- Previous intentional use in the region by pathogen, affected area and spread
- Storage locations within the region for intentional use pathogens
- L&S factor maps for intentional use

Accidental Executive Summary

External Impact (Lab – population)

Graphics/Maps for accidental

- Storage locations for pathogens within the region
- Previous accidental incidents, leaks by pathogen and lab – locations, spread
- L&S factor maps for accidental

Internal Impact

Graphics/Maps for accidental

- Storage locations for pathogens within the region
- Previous accidental incidents, leaks by pathogen and lab – locations, spread
- L&S factor maps for accidental

Natural Occurrence Executive Summary

Human to Human

Graphics/Maps for natural occurrence

- Heat maps of naturally occurring pathogens/historical outbreaks in the region
- Surveillance efforts by pathogen
- Regional expertise by pathogen: surveillance, lab diagnostic capacity
- L&S factor maps for natural occurrence

Animal to Human (Zoonotic)

Graphics/Maps for natural occurrence

- Heat maps of naturally occurring pathogens/historical outbreaks in the region
- Surveillance efforts by pathogen
- Regional expertise by pathogen: surveillance, lab diagnostic capacity
- L&S factor maps for natural occurrence

Vector Borne

Graphics/Maps for natural occurrence

- Heat maps of naturally occurring pathogens/historical outbreaks in the region
- Surveillance efforts by pathogen
- Regional expertise by pathogen: surveillance, lab diagnostic capacity
- L&S factor maps for natural occurrence

Capacity Landscape

Residual Risk Matrix

Stakeholder Executive Summary

Graphics for stakeholders (maps/disease focuses/expenditure/etc)

- Stakeholder location maps
- Expenditure maps

- External funding maps (where funding is coming from, where it's being spent by location and pathogen)
- Maps/tables of each pathogen of focus by stakeholder
- Tables of stakeholder by functional group (health system governance, lab capacity, regulatory frameworks, reporting, funding mechanisms, etc.)

Initiative Executive Summary

Graphics for initiatives

- Initiative location maps
- Pathogen focus maps (for ex., all the initiatives for influenza in the region)

Networks Executive Summary

Networks Graphics

- Network hubs/member location maps
- Network pathogen focus maps

Gap Analysis

Approach Analysis

Annex A – Pathogen Profiles

Annex B – Likelihood and Severity Factor Profiles

Annex C – Stakeholder Profiles

Annex D – Initiative Profiles

Annex E – Network Profiles

Appendix A – Terms and Abbreviations

Appendix B – Methodology

Appendix C – Product and Process Analysis

Appendix D - Acknowledgements



Pathogen: Influenza

Hu[illegible]nd [illegible]gin

Pathogen: Influenza

Human and Avian Origin

AKA: Flu, Bird flu, AI, HPAI, H5N1, H5N8, H7N9, H5N2, H7N3, H7N7, and H9N2

Hosts: Humans, wild and domestic poultry, and a range of mammal species

Zoonotic potential: Yes

Variations: Influenza A, Influenza B, Influenza C, Bird Flu, Swine Flu, Highly Pathogenic Avian Influenza (HPAI), Low Pathogenic Avian Influenza (LPAI), Avian Influenza

Disease burden: Unable to find regional annual numbers of infections and deaths - varies widely by strain. The WHO estimates annual worldwide deaths from all types of influenza at 250,000-500,000.

Morbidity/Mortality Rate: 0.001 - 60% mortality

Natural pathogen presence: Influenza affects all countries within SEA and frequently causes worldwide pandemics. Bangladesh, China, India, Indonesia, and Vietnam are considered endemic for H5N1 in poultry.

Regional Priority Ranking and Threat Ranking (CDC, WHO): HPAI is classified as a Select Agent by the USDA and as a CDC Category C Priority Agent.

Route of infection and Transmission Potential:
Form: Droplets, aerosols, direct or indirect contact (possible).
Sources: Nasal and oral secretions, contaminated water, droplets/aerosols from slaughter, fecal matter, infected tissue and blood
Route: Inhalation, ingestion, parenteral, contact with oral or nasal mucous membranes
Transmissibility: Human to human, animal to human, human to animal, animal to animal.

Incubation Period:
Human: 1 to 4 days; **Avian:** 2-8 or as long as 17 days.
Swine: 1 to 3 days

Clinical presentation

In humans:

Uncomplicated: Upper respiratory symptoms including sneezing, coughing, rhinitis, fever, chills, lack of energy/appetite, headache, sore throat, myalgia, weakness; nausea and vomiting (children). Can also be asymptomatic.

Complicated: Pneumonia, secondary bacteria or viral infection, bronchitis, transverse myelitis, Reye Syndrome, encephalopathy, myocarditis, pericarditis, myositis, (from avian influenza): chest pain, bleeding from nose and gums, lower respiratory tract diseases such as dyspnea, gastrointestinal symptoms like diarrhea, vomiting, and abdominal chest pain.

In animals:

Avian: Subclinical to severe in different species of wild and domestic poultry. Sinusitis, coughing, sneezing, green to white diarrhea, blood tinged oral and nasal discharge, decreased or deformed egg production.
Mammals: Upper respiratory symptoms including lethargy, coughing, fever, lack of energy/appetite, labored breathing, nasal discharge.

Diagnostics: *Viral culture, serology, rapid antigen testing, polymerase chain reaction (PCR), immunofluorescence assays, and rapid molecular assays.*
Prophylaxes and Availability: *Antivirals, vaccine for seasonal strains available. Seasonal vaccine effectiveness varies by year.*

Historical Events

Naturally occurring and Intentional

1918: *Spanish Flu: 50 million died across Europe and the United States, origin from avian source.*
1957: *H2N2 pandemic of Chinese origin which spread to the US and UK. 69,800 mortalities.*
1968 –1970: *H3N2 pandemic originating in Hong Kong.*
2009 – 2010: *H1N1 global epidemic. While this virus had lower mortality than past pandemics, it was highly transmissible.*

Surveillance: The WHO Global Influenza Surveillance and Response System (GISRS) monitors influenza viruses in the region with regional partners, including animal health agencies and national veterinary authorities. OIE maintains up-to-date data on global cases of AI, based on regular country reporting. FluNet is a publically available database maintained by the WHO that serves as a global influenza surveillance network.

Regional Expertise: Research, surveillance in humans and animals, laboratory diagnostics including molecular, and outbreak response are found on some level in most of the SEA countries.

Regional Spend per Year: (total):

Biocontainment: Seasonal flu strains can potentially be encountered in laboratories across the region. The 1918 virus and several other highly pathogenic avian strains that are classified as BSL 3 viruses are stored at labs in the region. There are numerous repositories of AI samples throughout SEA due to ongoing surveillance activities.

Potential and Use for Weaponization: High potential for weaponization, no known attempts.

Epidemic Risk Potential: High. Historically, epidemics and pandemics have occurred at regular intervals.

Variations

Drug resistant forms, genotypes, serotypes, strains, pathogenic vs. non pathogenic

All three types of influenza (A, B, and C) can infect humans. Influenza A is of primary concern as it also infects animals, though is generally is more pathogenic to humans. **Influenza viruses are also classified by their surface antigen types:** hemagglutinin and neuraminidase (HA and NA). There are 18 known HAs (H1-H18) and 1 known NAs (N1-11), although only a small subset of subtypes have historically infected humans. All HA and NA variants can be found in wild aquatic birds.

Influenza A H1N1 and H3N2 viruses are currently circulating in humans, and one strain of influenza B virus is included in the season vaccine. H5 and H7 subtypes of avian origin have infected humans and caused outbreaks, but transmission is not as easily sustained as with influenza viruses of human origin.

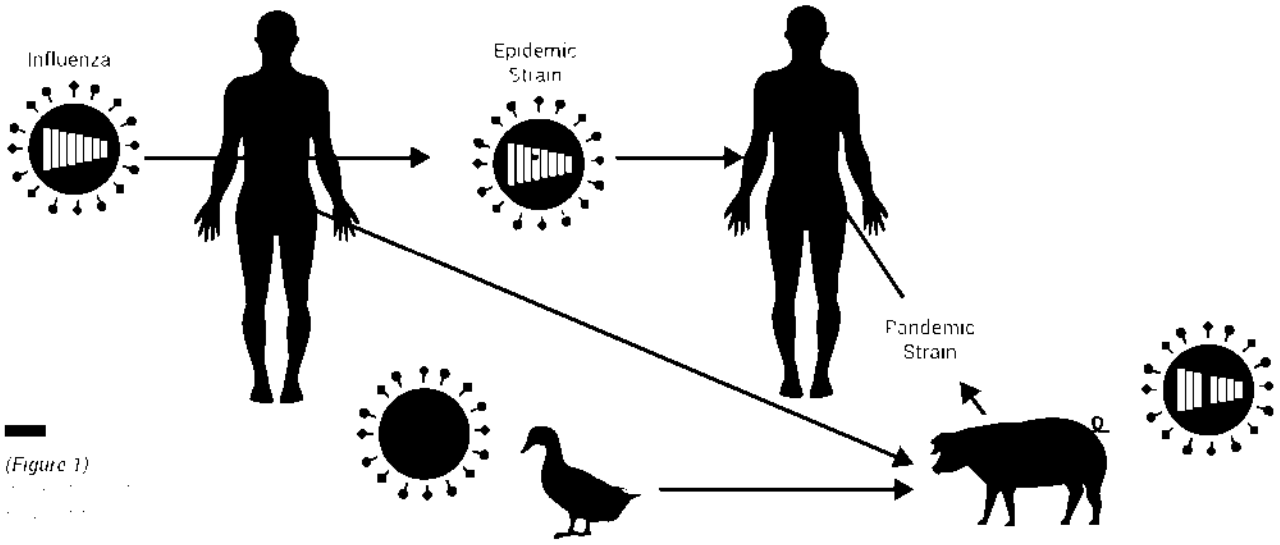
Influenza viruses infecting humans can be divided into seasonal and pandemic strains. Pandemic strains are those that transmit very easily, for which there is little pre existing immunity (including avian influenza), and that have the capability of human-to-human transmission. Avian influenza strains also are divided into two groups based upon the ability of the virus to produce disease in chickens: low pathogenic avian influenza (LPAI), and highly pathogenic avian influenza (HPAI).

Hosts

List animals that can be infected and zoonotic potential. Explain whether they are natural reservoirs, dead end, spill-over/accidental

Influenza can infect humans, dog, horses, seals, bats, and has even caused infections in wild and domestic feline species. Wild water birds, domestic poultry, and swine are hosts of primary concern. Wild birds are the reservoir hosts for influenza, and typically do not present symptoms. However, they can transmit the virus to domestic poultry, in which pathogenicity is often higher. Poultry can then transmit the virus to humans or swine (the virus can also be transmitted directly from wild birds to humans or swine). Sustained transmission may occur in any of these species, although avian viruses must typically acquire specific mutations to achieve sustained transmission in humans.

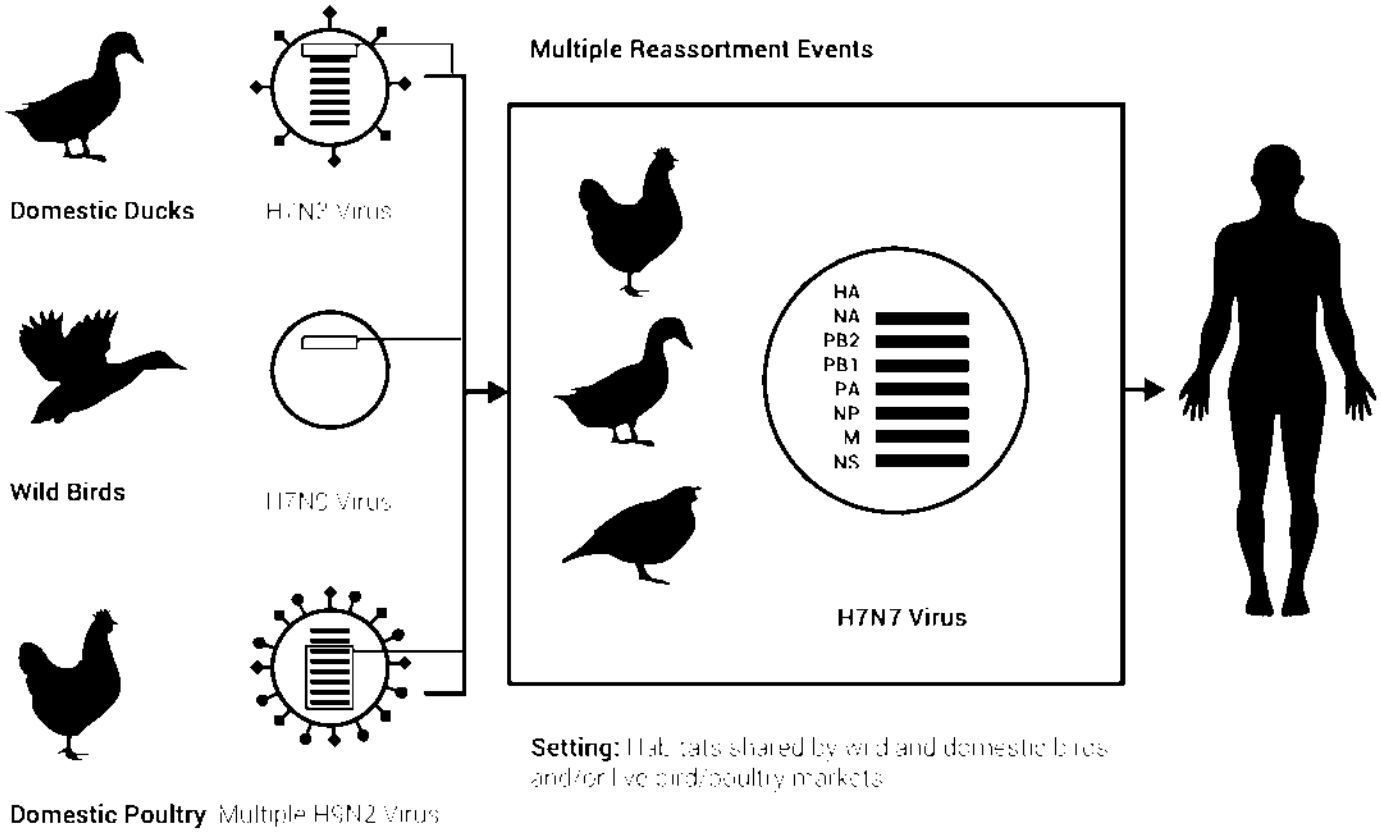
The potential for zoonosis varies by subtype and strain, but it can be very high. This is exacerbated by the fact that different subtypes can reassort in permissive hosts, leading to the emergence of a virus that may be antigenically novel (there is little pre-existing immunity in the human population). Swine are of primary concern for reassortant viruses, as they can be infected with both avian and human influenza viruses1 ***(Figure 1).***



(Figure 1)

Reassortment was key in the outbreak of H7N9 virus in China in 2013, when the virus was shared between wild and domestic birds sharing habitats, and/or live bird markets ***(Figure 2)***.

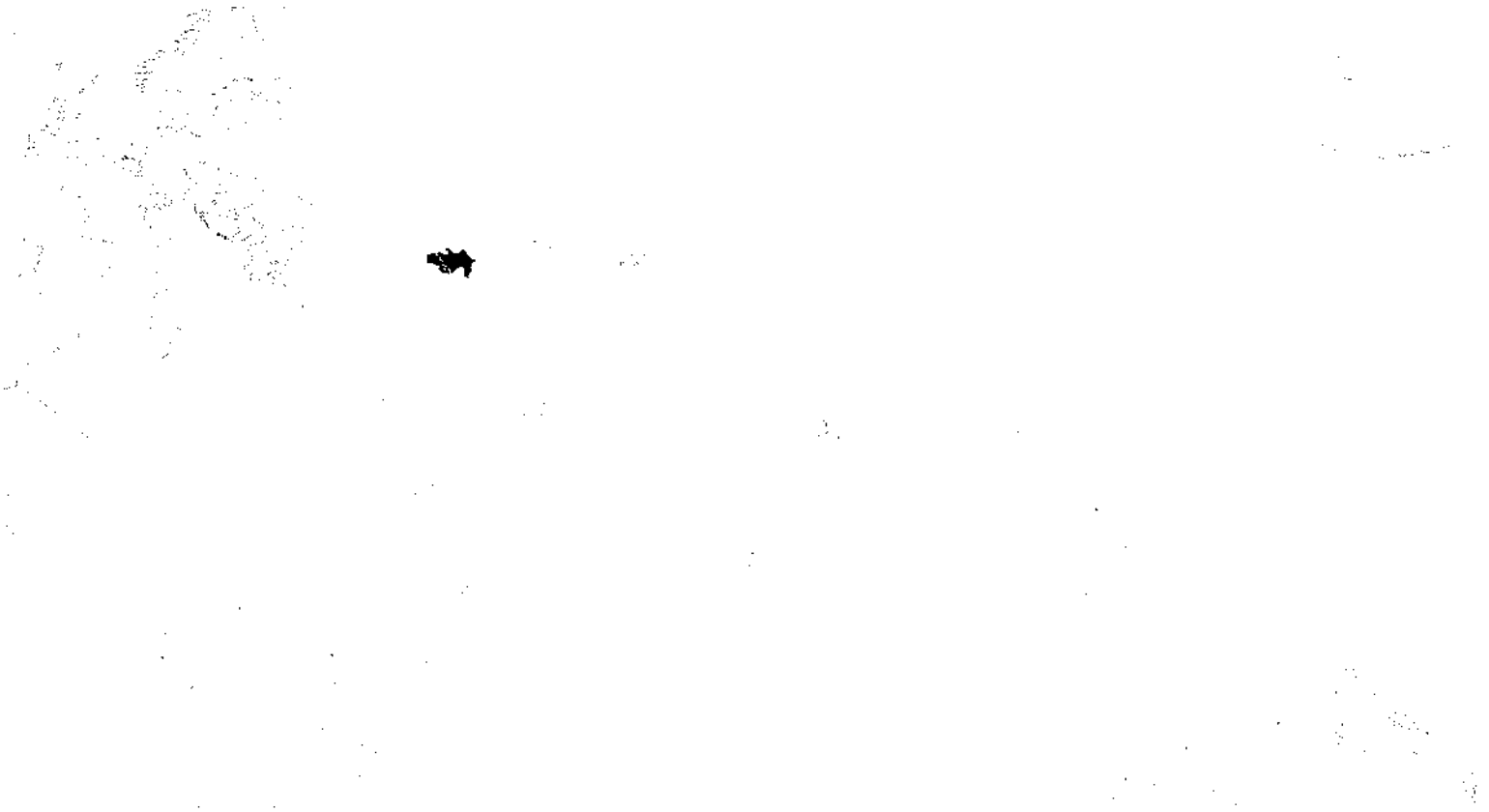
Genetic Evolution of H7N9 Virus in China, 2013



(Figure 2)

Natural pathogen presence

Endemic vs. epidemic vs. sporadic outbreaks with regard to endemicity or differing epidemics of varying strains or types



H5N1 Detected in

Poultry

Wild Birds

Wild Birds then Poultry

Pathway Contribution



Pathway

Migratory Birds

Poultry

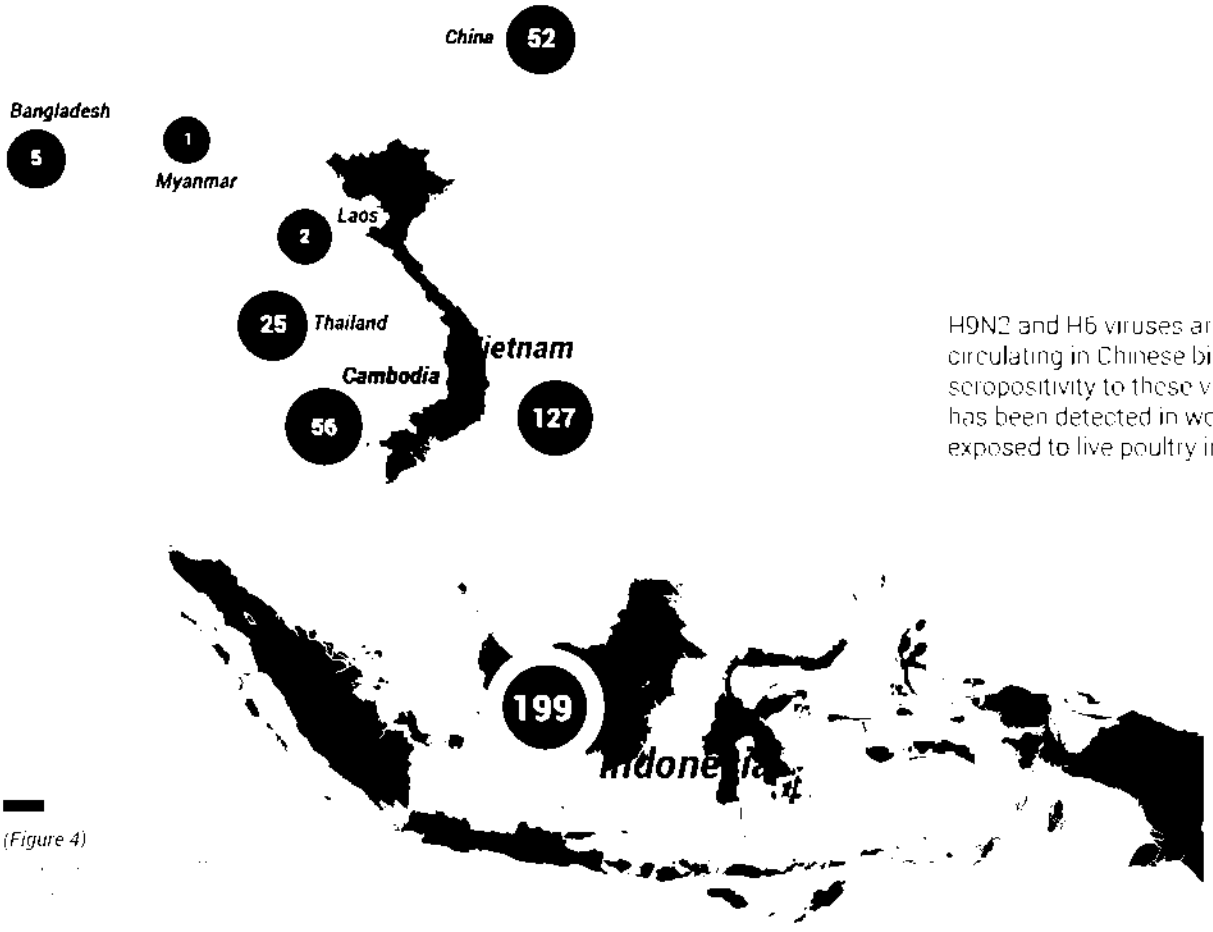
Unknown

★ *Wild Bird Trade*

Month of Out Break

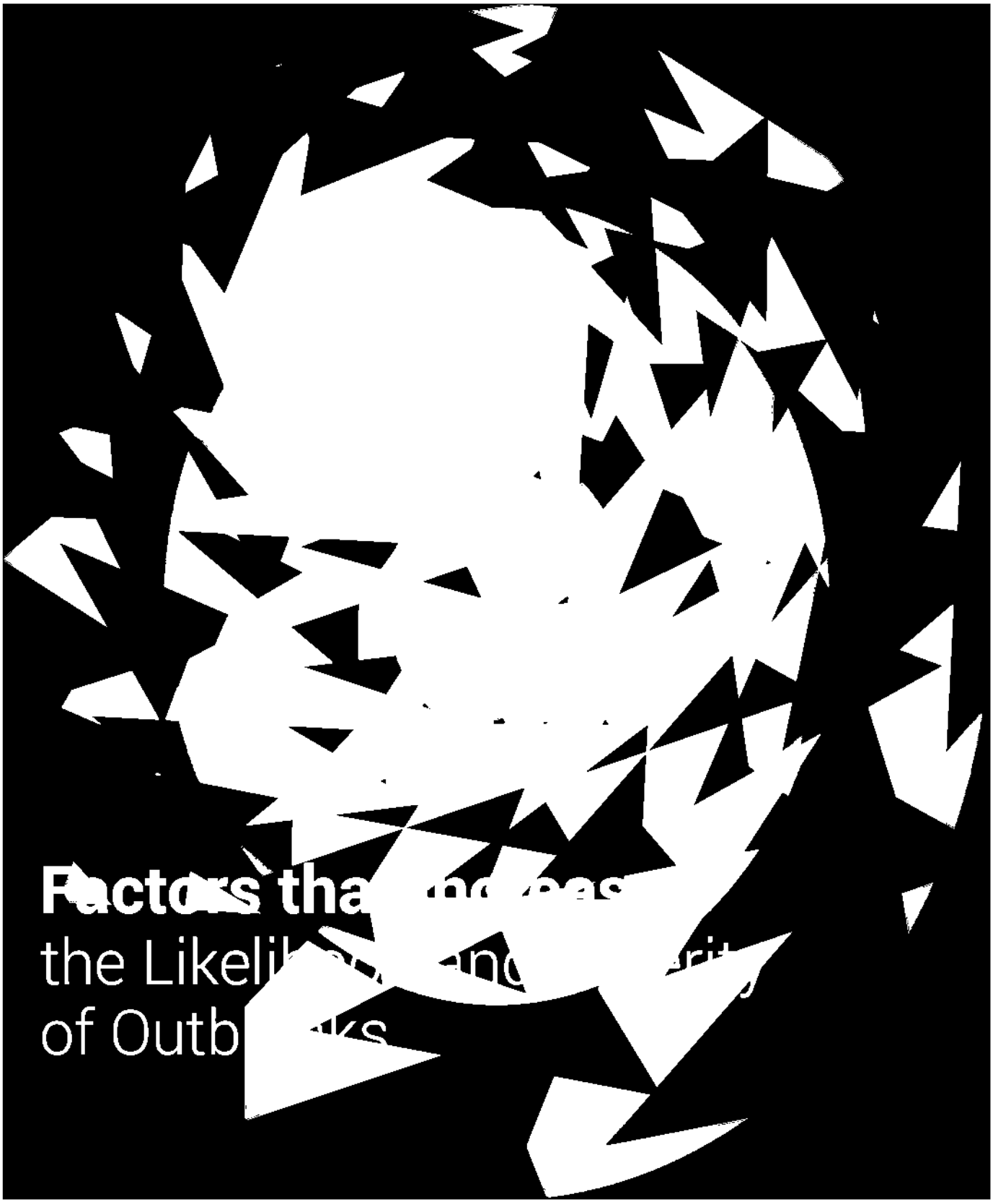
Seasonal influenza is largely represented by circulating human influenza A and B viruses and is endemic to all countries. In temperate regions, seasonal influenza peaks in the winter months, whereas tropical climates have no clear season for influenza, and cases occur sporadically throughout the year

Avian influenza viruses have caused outbreaks in humans in the past, including the first major outbreak of H5N1 in 1997 and it's the reemergence of sporadic cases in 2003 (see Historical Outbreaks). H5N1 can be found in poultry and wild birds in SEA and is known to have previous or current transmission among humans in Bangladesh, Cambodia, China, Indonesia, Laos, Thailand, and Vietnam. Among poultry, outbreaks have occurred in Cambodia, China, Indonesia, Japan, Laos, and Bangladesh, China, India, Indonesia, and Vietnam are considered to be endemic for the Asian-origin HPAI H5N1 virus in poultry. H7N9 is another avian-origin influenza virus of concern. The first human case of H7N9 was reported in China in 2013, which resulted in an outbreak of cases across 13 provinces in China. It is expected that sporadic cases occurring from poultry contact will continue to be reported in China



H9N2 and H6 viruses are broadly circulating in Chinese birds, and seropositivity to these viral subtypes has been detected in workers exposed to live poultry in China[4].

(Figure 4)



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Factors that Increase
the Likelihood and Severity of Outbreaks

INFLUENZA (ORTHOMYXOVIRIDAE)

Cross-border tensions or political disputes among countries within the region may hinder information sharing, cooperative research, and third party technical assistance, all central to preparation and response to an influenza outbreak. Unrestricted movement of individuals throughout the region without agreed-upon regulations and epidemiological information sharing also raises the risk of influenza outbreak spread.

Low socio economic and development statuses of countries within the region increase the likelihood of influenza outbreaks. Unregulated and informal farming practices, including "Backyard Farmers," are prevalent within the region and heighten the risk of emergence and spread of avian influenza through poor sanitation and colocalization of farm animal species and humans vulnerable to influenza infection. Variations in socio-economic status between and within countries may lead to inequitable distribution of influenza response resources and poor knowledge and public health education regarding influenza.

Traditional religious practices and celebrations that occur annually throughout the religiously diverse SEA region involve the congregation and close contact of thousands, traveling long distances (often from urban to rural locations), and even the release of thousands of captive birds (Vesak Day). Each of these aspects could very easily facilitate influenza transmission and geographic spread.

The region has much clinical and scientific experience with and expertise of influenza. The pathogen is being studied throughout the region, with advanced methods and technology in some laboratories, and poor biosafety and biosecurity in others. Accidental introduction of pathogenic influenza strains is possible, though biomedical expertise may mitigate and expedite the detection and response to an outbreak.

Variations in the healthcare and health system capacity of the region, including preparedness and response, will influence the likelihood and severity of an influenza outbreak. In some areas, there are severe gaps in antiviral stockpiles and ventilators and limited capacity for pandemic surge capacity including skilled health workers. However, the region has clinical experience with avian influenza and several countries have developed treatment guidelines for and training of management for human and avian influenza.

Potential increases in wild swine populations may increase the risk for avian and human influenza spillover, especially among hunters and game professionals. Temperature and climate influence how and when influenza may be transmitted, as well as the external stability of the pathogen. External environment also influences pathogen spread via fecal matter in airborne poultry dust and movement of infected birds or humans, including those spreading the pathogen through contaminated fomites.

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Political

Please discuss how the following factors (or any genera political factors) may increase or mitigate risk and/or severity of pathogen/agent outbreaks or impact on region, including any relevant specific dynamics within a countries or countries.

P-TA	**Terrorist activity**
P-UR	**Political unrest/volatility**
P-BC	**Border conflict, cross-border relationships, refugee issues**
S-HPC	**Heavily indebted poor countries**

Viruses may emerge unnoticed and flourish in uncontrolled areas. Laboratories with hazardous substances and bio weapons programs also present risks in spaces that lack central government control. Non-state armed groups that adhere to ideologies that support the use of biological weapons and possess the means to obtain and deploy them also increase the risk profile. Unstable governments may lack the means to track and contain biological threats. Cross-border conflicts may hamper government controls over biological agents and pandemic threats and increase the chances of weaponized uses

The most significant cross-border risks in the relevant Southeast Asian countries are concentrated in tensions surrounding increasing Chinese assertiveness in the South China Sea and border disputes between India and Pakistan. South China Sea border disputes involve tier-one and tier-two countries, most prominently Indonesia, the Philippines, and Vietnam.

Openness to outside technical help (much of the technical assistance and funding would likely originate in western countries) will be key in mitigating an influenza outbreak in SEA. While information sharing has improved considerably since the 2003 outbreak of SARS, an increase in geopolitical tensions could jeopardize international assistance and research efforts.

Tense geopolitical conditions would likely constrain health information sharing. The first case of avian influenza A (H7N9), a virus with a 22% fatality rate and judged to have a high pandemic potential, appeared outside China for the first time on 12 February 2014 in Malaysia, carried by a traveler arriving from the affected area in China. Relatively unrestricted movement of travelers, if not accompanied by equivalent information sharing and government to government cooperation, raises the region's influenza risk profile.

Increasing regional tensions over China's efforts to assert control over maritime interests through its 'nine dash line' (most recently highlighted by the first Indonesian sinking of a Chinese fishing vessel on 20 May) reduce the prospects for interstate cooperation should a new strain of avian flu emerge in China and spread to a neighbor in the region, a prospect assessed as highly probable, according to a consultancy with expertise in risk analytics and pandemics. Moving forward, a key metric in assessing levels of interstate cooperation and the resulting influenza risk profile is assessing partner countries' levels of sustained engagement with the CDC's global bio-surveillance program and the WHO National Influenza Centres, even amidst increasing security and political challenges.

High-Risk Crime and Conflict Areas



Hotspots for Political Instability





- CDC Field Staff
- CDC Sites
- WHO National Influenza Centre
- SLARO Headquarters
- SLARO Member States
- Influenza Research Cooperative Agreement
- Influenza Sustainability Cooperative Agreement
- Influenza Capacity Building Cooperative Agreement

WHO National Influenza Centres and CDC research locations. (CDC.gov)

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Socio-Economic

Please discuss how the following factors (or any general socio-economic factors) may increase or mitigate risk and/or severity of pathogen/agent outbreaks or impact on region, including any relevant specific dynamics within a countries or countries.

S-PV Poverty Low income (living below $2.50/day)
S-TR Trade, wet markets
S-TS Transportation - people in close contact traveling, transporting animals
S-LIT Literacy S-AG Agrarian (relationship w/livestock) livestock movements
S-SD Shelter/Dwelling
S-IN Infrastructure
MN Malnutrition
S-PD Population Density
S-ED Education
WS Water sources S-CM Crime
S-FS Food sources
S-APD Animal Population Density

Clear linkages exist between specific socio-economic factors and higher risk of influenza emergence and severity. The Human Development Index (HDI), a global study commissioned by the United Nations Development Programme, permits side-by-side comparisons of socio-economic outcomes and corresponding pandemic risks.10 These development factors, including education levels, sanitary practices, waste disposal infrastructure, social cohesion, medical capacity, and inequality, influence the likelihood of the emergence of a pandemic, a country's capacity to contain the threat, and the overall impact of the outbreak. Additional factors separate from development levels that may heighten pandemic risks include agricultural practices, population density, transportation and frequency of movement, and live animal markets. Frequency of movement and population density are areas of concern in more developed countries with extensive transportation systems and international travel, while agricultural practices and open markets frequently are factors in less-developed countries.

The prevalence of "backyard farmers" and non-industrial farms following traditional animal husbandry practices within the region (especially in rural areas) increases the risk for an avian influenza outbreak. This informal animal production sector is largely unregulated and biosecurity is low. Poor regulatory and monitoring mechanisms may fail to ensure that small-scale poultry farms apply proper sanitation procedures and result in delayed detection of an outbreak well after the initial case. Furthermore, key research findings show that exposure to poultry in live bird markets and raising poultry are the primary sources of human avian influenza infections. The collocating of various species (as happens on many smaller farms and in wet markets), especially wild birds, with domestic poultry and pigs, leads to a volatile incubation chamber of novel influenza viruses. Brown et al. (2015) report that the presence of backyard poultry farms housing a variety of species is a key factor in increasing the risk of AI outbreaks.11 Additionally, Fuller et al. (2014) report in their risk analysis that live bird market density is directly associated with AI infections.12 Thus, poultry as well as pig farming are cultural/socio economic practices that can create a context ripe for infection and transmission of influenza pathogens. Additionally, rice farming can create habitats for wild waterfowl, and when practiced alongside raising free range ducks, can increase the potential of both animal and human infection.

Estimated poultry density and AI outbreak locations geo-referenced in South and Southeast Asia, December 2003 – June 2004. (FAO-EMPRES and FAO-LEAD)



Source: FAO-EMPRES and FAO-LEAD.

Proven methods for preventing human transmission of Avian Flu include proper use of Personal Protective Equipment (PPE),13 basic personal hygiene, and safe storage and preparation of meat.14 Those countries with very low levels of socio-economic development are unlikely to possess the resources and internal expertise to meet such basic requirements. Other factors that increase influenza risk include income growth and its accompanied increase in meat consumption and traditional live animal markets. Poor educational outcomes have a deleterious effect on a country's capacity to contain a virus as the population may lack knowledge of proper sanitation procedures and scientifically grounded procedures for preventing spread.

Low levels of socio-economic development indicate deeply entrenched difficulties that require a long-term commitment. CBEP commissioned a report on performance metrics that established a distinction between partner countries' capabilities and capacities.15 Operational readiness indicates a partner country's level of capabilities while the building blocks that enable readiness are classified as capacities, according to the report Creating operational readiness to prevent the emergence and spread of influenza outbreaks will require sustainable investments in long-term capacities and socio-economic development.

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Finally, Laar and DeBruin (2015) shed light on issues of access and accessibility in countries where there is an increasing gap between the rich and the poor. Influenza preparedness and response plans as well as their implementation during an outbreak often include an unfair distribution of scarce resources that are not allocated among marginalized populations.16 Thus, establishing an ethical distribution of resources to prepare and respond to influenza crises is currently an issue for developing countries and a consideration for donor countries as well as international NGOs partnering in a region such as Southeast Asia to build their preparedness and response capacities ethically-appropriate.

Cultural

Please discuss how the following factors (or any genera cultural factors) may increase or mitigate risk and/or severity of pathogen/agent outbreaks or impact on region, including any relevant specific dynamics within a countries or countries

C-BP	Burial practices
C-SA	Sexual activity
C-MG	Minority groups/prejudice
C-RB	Traditional religious beliefs/ animal sacrifice/traditional medicine

Any practices that involve congregation or close contact could potentially enhance influenza transmission. Hot spot areas include those where human to human transmission between the sick and healthy occurs, as well as where large populations interact, and popular start/end points for traveling significant distances.

The Southeast Asian region is historically ethnically and religiously diverse with large Islamic, Christian, Hindu, and Buddhist populations, all of which celebrate their faith regularly and publicly in large gatherings that present ideal scenarios for virus transmission. The end of the fasting month of Ramadan is a big event in Muslim countries such as Indonesia, Brunei, and Malaysia. Known as "Lebaran" in Indonesia and "Hari Raya" in Malaysia and Brunei, it is a time when Muslims interact extensively with family and friends. In Indonesia, strongly held traditions to visit family at this time necessitate the exodus of an estimated 7.13 million people (2011 estimate) from Jakarta alone, as well as millions more from other urban centers to rural villages (where direct contact with infected poultry is far more likely).17 This busy travel period also causes packed conditions at airports, bus stations, and other travel points. In all three countries, daily mass prayer gatherings take place at mosques, open fields, parks, and on major streets. These gatherings can include several hundred people.

Another notable festival that is celebrated in both Malaysia and Singapore is the Tamil Hindu celebration of Thaipusam, when several thousand worshippers from both urban and rural locations congregate to ask the god of war to cleanse their sins and provide them with prosperity in the coming year. Lastly, Buddhists in Sri Lanka, Nepal, Bangladesh, India, Indonesia, the Philippines, Singapore, Vietnam, Thailand, Cambodia, Lao PDR, Malaysia and Myanmar celebrate Buddha's birth, enlightenment, and death in April/May on "Vesak Day." This holiday is significant in the context of influenza transmission for the thousands of devotees that it draws to assemble in temples, but even more so for the "symbolic act of liberation" that is performed each year, when birds, insects, and animals are released by the thousands and given freedom from captivity.[18]

Access/Use

Please discuss how the following factors (or any general access/use factors) may increase or mitigate risk and/or severity of pathogen/agent outbreaks or impact on region, including any relevant specific dynamics within a countries or countries.

A-LA Laboratory access, use, expertise (basic and clinical research)
A-BS Biosafety and biosecurity
A-W Access, use, and potential for weaponization

The region has strong basic and clinical research programs investigating influenza, and it is among the most studied infectious agents in the region. Indonesian researchers, in particular, have a significant number of programs investigating avian influenza virus, and Vietnam and Malaysia have the next highest fractions of researchers who study avian influenza virus.

There are numerous laboratory and research networks that focus on or have expertise in influenza surveillance (including molecular diagnostics) and research. For example, through the SEACIRN network, a new biosafety level 3 laboratory facility was established at the Hospital for Tropical Diseases, Ho Chi Minh City, Viet Nam for isolation of H5N1 viruses and emerging (pandemic) influenza viruses. Pyro-sequencing capacity was also established there to characterize viruses and detect mutations in the influenza virus genome that confer antiviral drug resistance. Moreover, trainings are performed on an ongoing basis at the reference laboratory in Ho Chi Minh City, followed by on-site training at participating laboratories in the SEACIRN network to ensure a high level of quality and consistency in technical activities. To ensure quality, each MDL laboratory is enrolled in at least two different external quality assurance programs for molecular influenza diagnostics. Furthermore, proficiency testing for diagnosing influenza by RT PCR is performed before sites are allowed to start screening patients.

Another diagnostic laboratory network, the Asia Partnership on Emerging Infectious Diseases Research (APEIR), was initially focused on regional collaboration in avian influenza research, and its first projects have developed and informed surveillance and response capacities within the region, including in Cambodia, China, Indonesia, Thailand and Vietnam (Refer to APEIR Stakeholder profile for more detailed information).

There is also strong animal laboratory capacity within the region. Animal laboratory capacity, including molecular diagnostics, has been strengthened in Indonesia and Vietnam in recent years, following the 2004 HPAI outbreak. Real time PCR was promoted for direct diagnosis of the infection and international reference laboratories were utilized to transfer technologies and specified methodologies, such as verified reagents and test sequences to national laboratories in the affected countries. Also, the Veterinary Research Institute (VRI) in Ipoh, Malaysia was nominated as the ASEAN regional laboratory for avian influenza and is paired with the Australian Animal Health Laboratory (AAHL) in a twinning lab program to build capacity for diagnosis and systematic management as well as bio-risk management and quality assurance. More recently, diagnostic protocols and the development of a regional algorithm and SOPs were reported at the 2013 Lab-TAG meeting by the AAHL, in response to the emergence of avian influenza (Lab TAG, 2013).

The laboratory and research focus on influenza may mitigate the impact of influenza on the region, as there is diagnostic and scientific capacity and expertise that may help prevent or diminish influenza epidemics in the region and worldwide. For example, SEAICRN has mandated the sharing of data and protocols, which may prove essential in improving biosurveillance and enabling a quick and effective response to epidemics in the region and worldwide. During the H1N1 pandemic, a number of non-Asian countries used these protocols, adapted them to their own local circumstances, including translation, and implemented them. SEAICRN has also stated that they are committed to sharing all data with all institutions and national and international authorities, in line with the IHR 2005, which can certainly improve regional, national, and global surveillance. Finally, the OIE/FAO Network of Expertise on Animal Influenza identified the link between international expertise with Indonesian scientists to cultivate the methodology of antigenic cartography to depict antigenic mismatches in vaccines for poultry (OFFLU, 2013).

While a strong research and clinical diagnostic focus on influenza may mitigate its impact on the region, the

presence of pathogenic influenza strains also puts the region at risk for accidental outbreaks. Biosafety in this region often fails to meet international standards, and agents are often studied at a lower biosafety level (BSL) than is recommended by international standards.

WHO SEARO National Influenza Centers each study and maintain samples of HPAI. These laboratories, unlike other unaffiliated labs in the region, are required to meet basic BSL2 standards and use BSL3 work practices in accordance with the WHO Laboratory Biosafety Manual.

Bangladesh (Dhaka)	Institute of Epidemiology, Disease Control and Research (IEDCR)
India (Kasuli)	National Influenza Center Central Research Institute
India (Mumbai)	Department of Virology Acharya Donde Marg
India (Pune)	National Institute of Virology
Indonesia (Jakarta)	Center for Biomedical and Basic Technology of Health National Institute of Health Research and Development
Myanmar (Yangon)	National Health Laboratory
Sri Lanka (Colombo)	Geethani Wickramasinghe Medical Research Institute
Thailand (Nothaburi)	National Institute of Health (NIH) Department of Medical Sciences Ministry of Public Health
Indonesia	Dr. Cipto Mangunkusumo Hospital (Jakarta) Dr. Wahidin Soedirohusodo Hospital (Makassar) Dr. Sardjito Hospital (Yogyakarta)
Thailand	Faculty of Medicine Siriraj Hospital (Bangkok) Queen Sirikit National Institute of Child Health (Bangkok) Chiangrai Prachanukroh Hospital (Chiangrai) Sappasithiprasong Hospital (Ubon Ratchatani)
Vietnam	National Hospital for Tropical Diseases (Hanoi) Hospital for Tropical Diseases (Ho Chi Minh)—BSL 3 (used for isolation of H5N1 viruses)

South East Asia Infectious Disease Clinical Research Network (SEAICRN) Hospitals and Institutions 19 (Refer to SEAIRCN Stakeholder profile for detailed descriptions of protocols and capabilities)

Additionally, influenza is a pathogen that has implications in dual-use research. Most research institutions in the region do not have policies in place guiding dual-use research of concern, and only Malaysia and Singapore have legislation that control trade in dual-use goods [1].

Healthcare and Health Systems

Please discuss how the following factors (or any genera healthcare and health systems factors) may increaseor mitigate risk and/or severity of pathogen/agent outbreaks or impact on region, including any relevant specific dynamics within a countries or countries.

H-HC	Healthcare (emergency, primary, tertiary, etc.)
H-HS	Health systems
H-MCH	Maternal & Child Health (prenatal & postpartum care)
H-HH	Human Health (genetic, health status, vaccination coverage, immunity,etc.)
H-AH	Animal Health and Veterinary Medicine

Referral hospitals for avian and human influenza exist in Cambodia, Indonesia, Lao PDR, Taiwan, Thailand, and Viet Nam. These countries have developed treatment guidelines for and training of management for human and avian influenza, including patient isolation and antiviral treatment. Taiwan provides free care to influenza patients.

From an analysis of influenza preparedness prior to the H1N1 pandemic in Cambodia, Indonesia, Lao PDR, Taiwan, Thailand, and Viet Nam, it was learned that most patients only arrive at public healthcare facilities when their symptoms are severe, and their first point of contact is usually a private or informal health care provider. [1]

Health System factors prior to the H1N1 pandemic22

In an analysis of influenza preparedness prior to the H1N1 pandemic, there was a range in levels of preparedness within the context of health systems and across countries. In all six countries studied (Cambodia, Indonesia, Lao PDR, Taiwan, Thailand, and Viet Nam), preparedness activities were dependent on the existing public sector healthcare workforce, and human resources for avian and human influenza were limited. Highly skilled healthcare workers, especially physicians and nurses, were a problem in developing countries, and additional training specific to influenza response in all countries was limited to those involved in surveillance, case detection, and infection control. Cambodia, Indonesia, Lao PDR, and Thailand did not have a plan for surge capacity of healthcare workers during a crisis.

Most countries have a model hospital preparedness plan that can be used during a pandemic; however, Lao PDR and Cambodia did not have surge capacity for extra hospital beds. Within Taiwan and Vietnam's plans there was an explicit surge capacity for hospital staff.

While all countries had stockpiled antivirals, the amount stockpiled varied greatly. Taiwan had a national stockpile that covered 10% of its population, with the ability to increase the stockpile. Thailand and Indonesia's national stockpiles only covered 1% of their populations, while Cambodia's was only enough for a dismal 0.1% of its population.

While active and widespread, public health education on influenza has been more focused on avian influenza and preventing its transmission, including messages on handling of livestock and basic health hygiene. There was less focus on pandemic human influenza.

Health System capacity for Influenza in the Greater Mekong Subregion [2] and its impact on mortality

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There is great geographical variation in the distribution of influenza response resources, specifically hospital beds, healthcare workers, oseltamivir, and ventilators in the Greater Mekong Subregion. Analyses of key resources across provinces within countries in the region found that are many areas, within and between countries, that are underserved with regard to availability of resources appropriate to the population size (Figure 1). Lao PDR and Cambodia are particularly underserved in influenza response resources, and both Thailand and Vietnam have provinces and regions with lower resource densities. Taiwan has relatively few provinces with resource gaps, though it does not have sufficient oseltamivir supplies. Overall, ventilators are lacking in the region. Furthermore, these high and low resource provinces do not occur in isolation; clusters of provinces with similar resource distributions, for one or more resource, can be identified (Figure 2). Provinces with mismatched resource supplies (an oversupply of at least one resource with an undersupply of at least one other) were located mostly in Thailand and Vietnam, and approximately 20% of the Thai population lives in provinces with resource mismatches.[25] The consequences of these resource gaps could be substantial with regard to mortality during an influenza pandemic. Filling in resource gaps would prevent many deaths, primarily within low resource regions (Figure 3). [26]

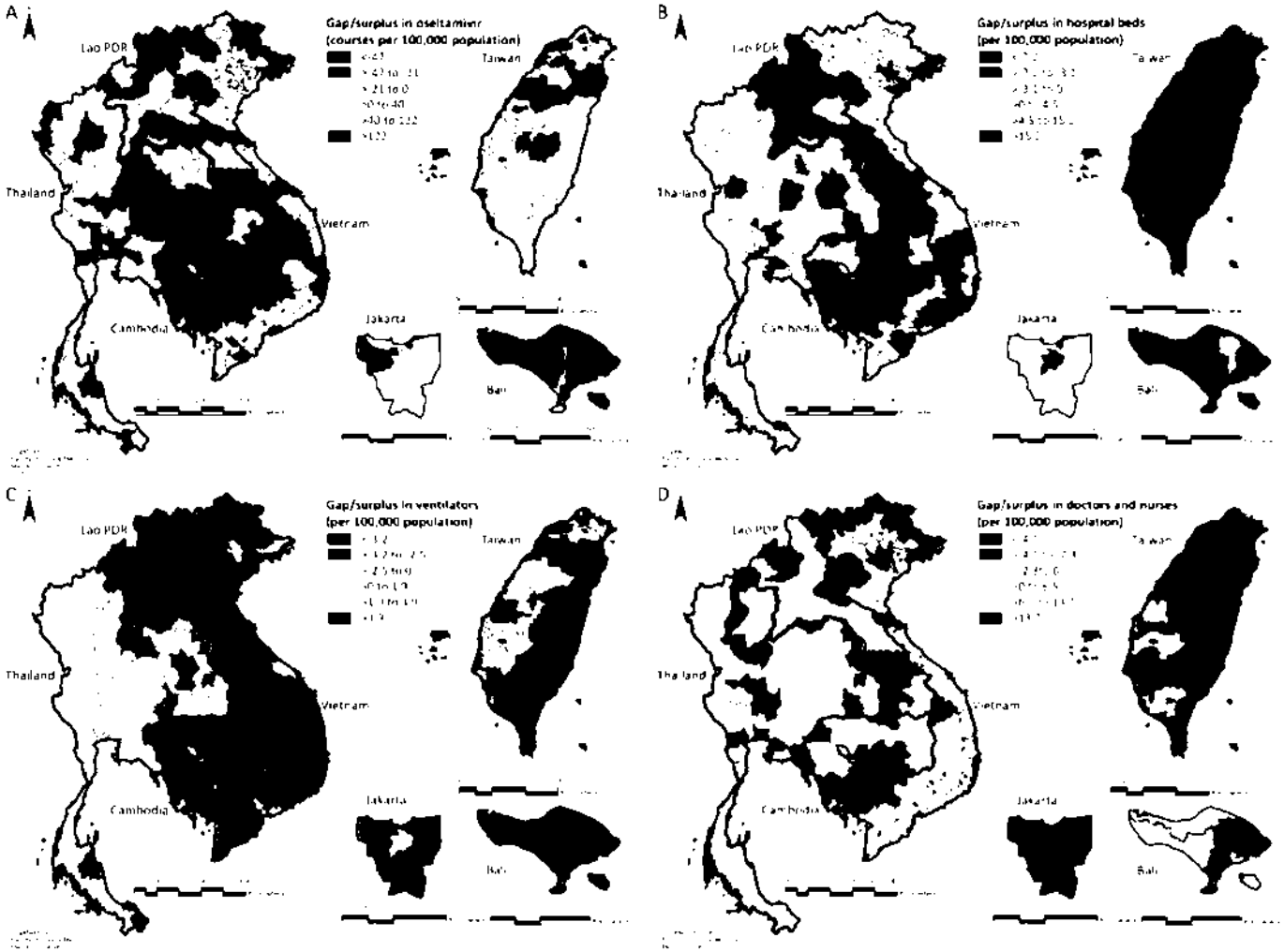


Figure 1. Geographical distribution of estimated health system resource gaps for a modeled pandemic influenza scenario.(Rudge et al 2012)

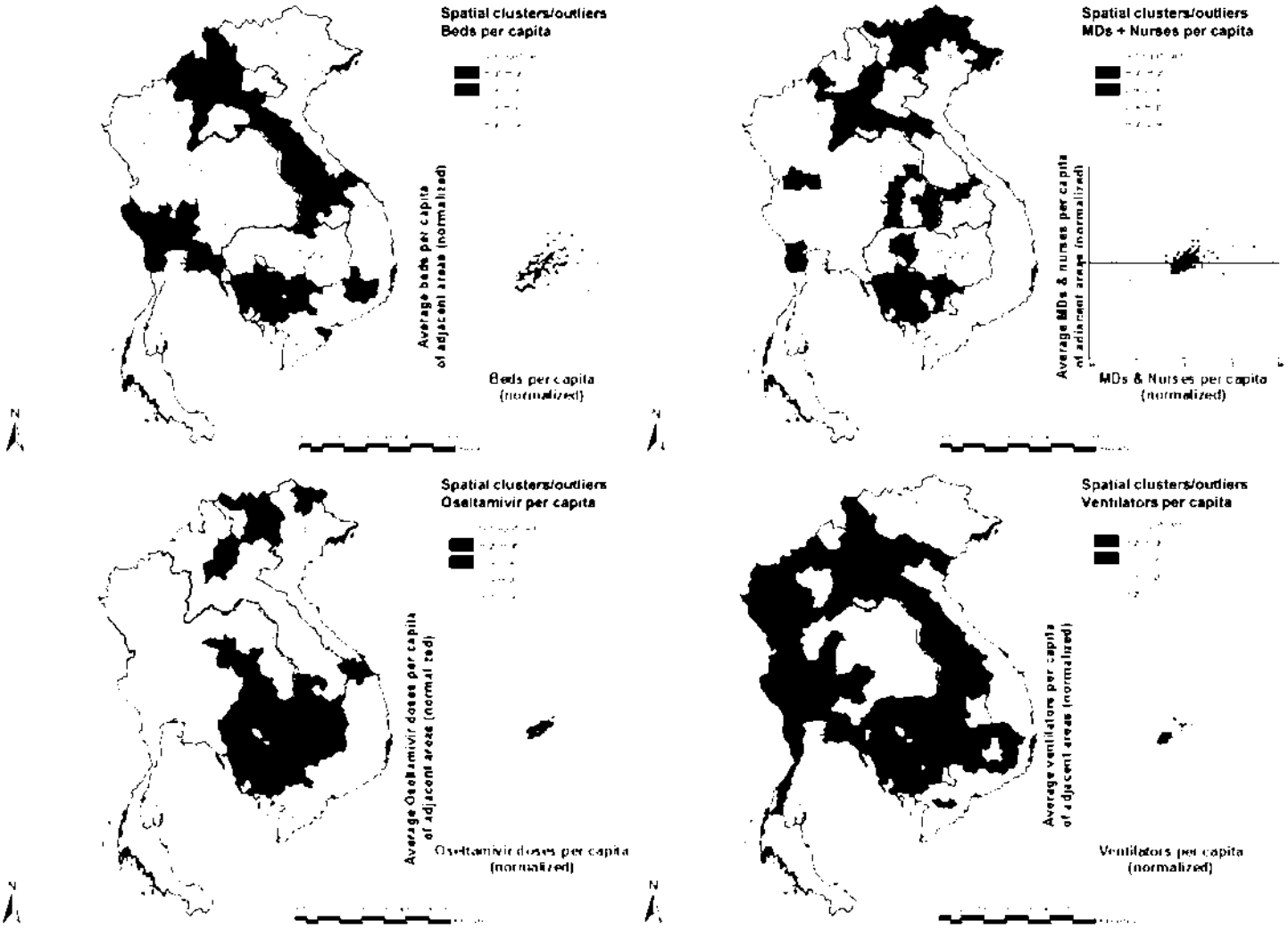
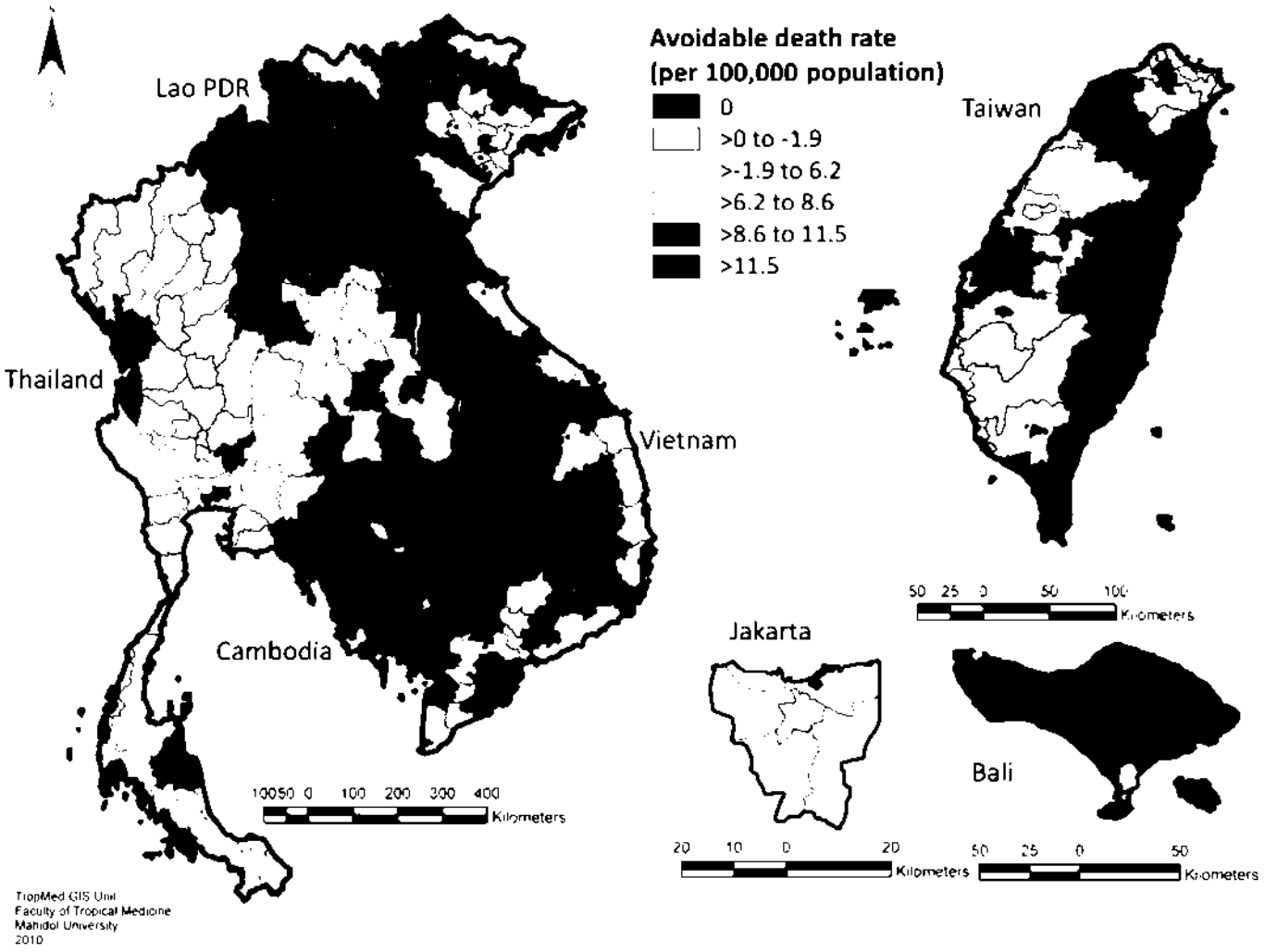


Figure 2. Spatial clusters and outliers of healthcare resources across provinces in the Greater Mekong Subregion. (Hanvoravongchai et al. 2012)

Figure 3. Geographical distribution of estimated avoidable mortality rates due to resource gaps for a modeled pandemic influenza scenario. (Rudge et al 2012)



Current global recommendations for seasonal influenza vaccine include five groups: pregnant women, health care workers, children 5 to 59 months, the elderly, and persons with high risk conditions. Among these groups, pregnant women are listed as the most important group. A multi-year survey study conducted by Gupta et al (2012) of ASEAN member states found that only Indonesia, Malaysia, Singapore, Thailand, and Vietnam (all high or middle income countries) had issued guidelines for the use of seasonal influenza vaccines. Of the five countries with guidelines, Singapore and Thailand recommend vaccination for pregnant women, while Singapore, Thailand, and Vietnam recommend vaccination for young children (Figure 4).

Figure 4. Characteristics of seasonal influenza vaccine use among nine Southeast Asian countries (Gupta, V. et al 2012)

Country	Public sector use (year of introduction)	Months of immunization administration	Vaccine guidelines	WHO recommended target groups [4]					Other target groups					
				Pregnant women	Health care workers	Children 6-59 months	Elderly	Persons with high risk conditions†	Institutionalized individuals	Medical care or hospitalization in previous year*	Children on long-term aspirin therapy	Pilgrims to the Hajj	Obesity	Household contact, caregivers of children or high risk
Cambodia	No		No											
Indonesia	Yes (2009)	Prior to the Hajj	Yes									✓		
Lao PDR	No		No											
Malaysia	Yes (1988)	Year round	Yes		✓		✓**		✓			✓		✓
Myanmar	Yes (2008)	Jun to Aug	No											
Philippines	Yes (2011)	May to Dec	No											
Singapore	No	Dec to Feb	Yes	✓(2/3 trimester)	✓	✓(6mo-5 years)	✓	✓		✓	✓			✓
Thailand	Yes (2004)	Jun to Aug	Yes	✓(3 trimester)	✓	✓ (6mo-2 years)	✓	✓	✓				✓ (>100 kg)	
Vietnam	No		Yes		✓	✓(6mo-5 years)	✓	✓						

*Due to chronic metabolic diseases (including diabetes mellitus), renal dysfunction, haemoglobinopathies or immunosuppression (including by medication or HIV).
†High risk conditions: Malaysia (chronic cardiovascular, pulmonary, metabolic or renal disease, or who are immunocompromised); Philippines (chronic pulmonary or cardiovascular disorders); Singapore (diseases of the pulmonary or cardiovascular systems, including asthma); Thailand (chronic obstructive pulmonary disease, asthma, heart disease, stroke, kidney failure, cancer, diabetes, thalassemia, immunosuppression including persons infected with HIV); Vietnam (COPD, congenital heart disease, heart failure, diabetes, immunodeficiency).
**Only includes elderly with ≥1 more of the following chronic conditions: chronic cardiovascular, pulmonary, metabolic or renal disease, or who are immunocompromised.
doi:10.1371/journal.pone.0052842.t003

Seasonal influenza vaccination in the SEA region is negligible compared to North America and Europe, which makes influenza epidemics more of a risk. An extensive survey of seasonal influenza vaccine distribution and vaccine recommendation policies was conducted in 2010, which revealed that Southeast Asia had the second lowest distribution of the six WHO regions. No countries in the region met the "hurdle" distribution rate of 159 doses/ 1000 population. Please refer to the influenza pathogen profile for more detailed information on vaccination coverage

In addition to being classified by type (A, B, or C), influenza viruses are also classified by their surface antigen types, hemagglutinin and neuraminidase, (HA and NA). Mutations that change amino acids in surface antigens produce selective advantages for viral strains by allowing them to evade preexisting immunity ("antigenic drift"). The HA and NA can evade preexisting population immunity by either antigenic drift or antigenic shift, in which the virus acquires an HA of a new subtype by genetic reassortment with another influenza A virus.28 The influenza virus's ability to mutate combined with the extremely large number of potential strains make it unlikely that pre-existing immunity in a population would reduce the effect of an influenza outbreak.

In individuals, however, there are several pre-existing conditions that might exacerbate influenza disease. These include asthma; neurological conditions; chronic lung disease, heart disease; a weakened immune system; morbid obesity; and blood, endocrine, metabolic, kidney, or liver disorders.

Due to their history with avian influenza and SARS and their zoonotic nature, the region has strengthened connections between the human and animal health communities, especially with regard to surveillance activities. The participation from both communities and their collaboration is a factor that may reduce the severity of an influenza outbreak if caught and addressed quickly.

According to WAHID information on RAHIS, vaccination is carried out across Southeast Asia for the purposes of limiting and controlling the spread of HPAI, although the degree to which vaccination campaigns are implemented is not mentioned.29 Over 99% of the 110 billion doses of AI vaccine have been used in poultry from 2002 to 2010 have been used in China including Hong Kong (91%), Egypt (4.7%), Indonesia (2.3%), and Vietnam (1.4%), where vaccination programs have been nationwide and routine to all poultry. Ten other countries used vaccine in poultry in a focused, risk-based manner but this accounted for less than 1% of the vaccine used.[29]

Starting in 2004, the ASEAN member countries (supported by the FAO and the OIE) began working for a uniform regional capability for diagnosis and surveillance for H5N1 HPAI infections. Regular meetings of directors of the national diagnostic laboratories of the Southeast Asian countries promoted prioritization of H5N1 laboratory capability among participants and common approaches to enhancing and maintaining capability. These approaches built on the experience with other transboundary animal diseases of the FAO/OIE Global Framework for the Progressive Control of Transboundary Animal Diseases (GF- TADs) (FAO/OIE 2004). Since 2007, annual capacity exercises have been implemented across the network, with 13 laboratories from 8 countries participating. The analyses and follow up of these rounds identified issues, with a marked increase in the harmonization achieved among the ASEAN countries both for real time PCR detection of agent and for H5HI serology.31

(Please refer to the ASEAN Stakeholder Profile for information on the Animal Health Laboratory Framework.)

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Environmental

E-AM Animal migration
E-VP Vector prevalence
E-MR Meteorological
E-IRC Industrialized Resource Context (Logging and Mining)
E-SAN Sanitation (sewage effluent, septic tank location)
E-ARS Agricultural resiliency and sustainability (food insecurity)
E-SMS Storm water runoff

Wild swine populations are experiencing a demographic explosion in several parts of the globe.32 Increases have been observed in most locations where animal data is available. However, further animal surveillance is required in Southeast Asia to identify the specific population increases among wild swine in the region

Increases in the interaction between wild swine and humans have the potential to create a greater risk of zoonotic infections and transmission to humans including those from influenza. Hunters and game professionals are suggested to be the most likely to acquire infections from wild swine. Additionally, other potential viral spillover areas of concern include residential housing in semi-natural areas and recreational activities in the same context for viral spillover.

Bird migration networks are an important risk factor for the spread and evolution of the HPAI virus throughout Southeast Asia. Tian et al (2015) used four bird vector species for H5N1 to analyze the bird migration patterns, which represented virus occurred between migratory avian flyways and that bird migrations coincided with the peaks of HPAI H5N1 epidemics (See Figure 4) 33 These findings support recent calls for increased collaboration between countries located along the same flyways, and suggest that in addition to regional surveillance, flyway-based strategies should also be implemented

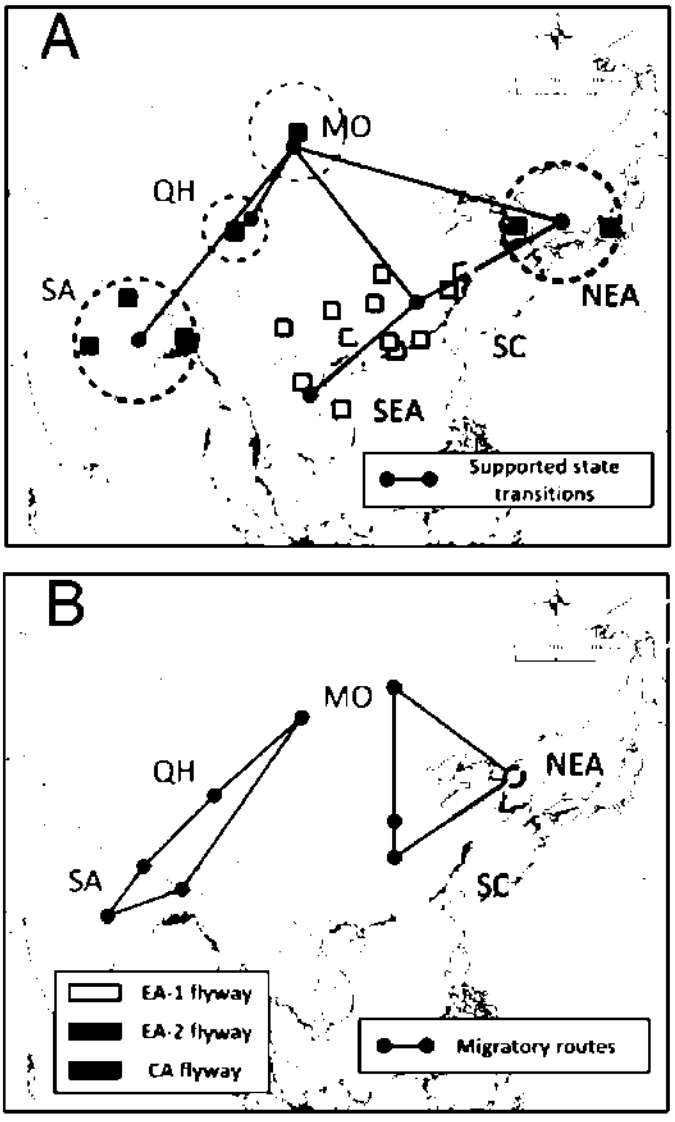

Figure 4. Viral migration and bird migration networks in Asia. (A) Supported state transitions of HPAI H5N1 clades 2.3.2. (B) The migration routes of the four main bird species [bar-headed goose (Anser indicus), swan goose (Anser cygnoides), ruddy shelduck (Tadorna ferruginea), and northern pintail (Anas acuta)] in the Central Asian (CA, red line), East Asian–Australasian 1 (EA-1, starting at Hong Kong, green line), and East Asian–Australasian 2 flyways (EA-2, starting at Poyang Lake, dark green line). (Tian, et al 2015)

Influenza viruses generally transmit better in lower temperature, lower humidity environments. It has also been suggested that while influenza transmits primarily via aerosol in these environments, in warmer, more humid environments it transmits primarily by contact. Tamerius et al. (2013) report that their model for environmental predictors of seasonal influenza epidemics in tropical climates indicates seasonal influenza re-emergence is more probable during peak precipitation months or periods when rainfall exceeds 150mm per month [34] Conversely, in temperate climates seasonal re-emergence is more probable in cold-dry months or the winter.

The ability of AI viruses to survive in the environment depends on temperature and humidity. For example, the stability of the H5N1 HPAI virus in wet feces in the environment was more than 40 days at 4°C (39.2°F). The virus becomes less stable as the temperature increases at 25°C (77°F) the virus was stable for 8 days and at 35°C (95°F) the virus was stable for only 2 days.

Climate change is a significant contributor causing rural populations to migrate to urban centers where the most common destination is slum dwellings. As seawaters rise, coastal communities will also be forced to relocate. This ultimately could lead to close proximity living and poor sanitation, facilitating influenza infection and transmission.

Physical Environment

Avian influenza viruses are generally sensitive to most detergents and disinfectants, and heating and drying will inactivate them. However, avian influenza viruses can persist in soil, feces, and pond water for varying amounts of time, depending on environmental conditions. Thus, the sanitation of the physical environment can affect the risk of an outbreak of avian influenza. Poor sanitation and polluted water sources are often associated in backyard poultry settings, which is especially important considering that influenza is a gastrointestinal infection in birds. Kang et al. (2015) report that the sanitation status of poultry farms is a significant contributor to outbreaks and routine environmental sampling is effective at controlling the spread of transmission. Improving poultry market management as well as farm management alongside sanitation are crucial to reduce the risk of avian influenza.[35]

Infrastructure

Movement of infected feces on boots, tires, or other fomites is thought to be a leading cause of expansion of outbreaks, thus any factors that increase movement of humans (and birds) will enhance the risk of an outbreak and its expansion. Road infrastructure must be in place for sample transport by veterinary personnel to laboratories for diagnostic testing as well as vaccine dissemination. Nonetheless, increased infrastructure enhances the potential movement of infected animals, allowing the more rapid spread of an outbreak and exacerbating control efforts. Additionally, Brown et al. (2015) demonstrate the proximity to highways can promote epidemic dispersal [36]. Finally, the increase of global trade and travel dramatically heighten the risk of pandemics.

A primary component of airborne poultry dust is fecal material. Virus contaminated particulate matter from infected poultry can be dispersed into the environment leading to virus spread outside of the flock. Human and animal populations downwind from buildings holding infected birds can be at risk[37]

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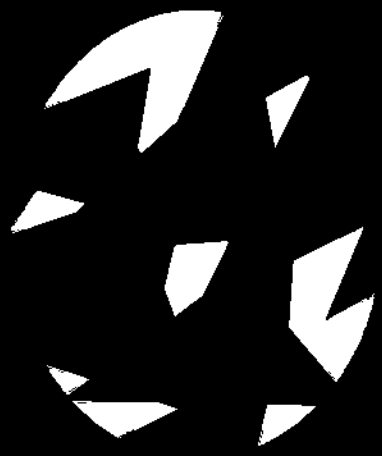

All Avian Influenza Stakeholders

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RELEVANT STAKEHOLDERS

Table of Cor

04 The World Organization for Animal Health (OIE)

05 Mekong Basin Disease Surveillance

06 Pastcur Institute

07 Asia Partnership on Emerging Infectious Research

08 Centers for Disease Control

09 WHO



The World Or tion for Animal Healt

Activities/Projects:

- OIE/JTF Project for Controlling Zoonoses in Asia under One Health Concept seeks to strengthen the capacity of veterinary services and enhance collaboration between veterinary services and the public health sector of member countries on reducing risks for zoonotic potential. Influenza is one of the chosen priority topics for joint action between SAAHC, ASEAN, SPC, and other stakeholders.[1]
- OIE Regional Workshop on Enhancing Influenza A viruses National Surveillance Systems (26-28 August, 2014). Sessions included (1) Updates on HPAI control measures; (2) Epidemiological aspect and surveillance metrics; (3) Legal and social aspects of surveillance; (4) Regional collaboration and data sharing
- IDENTIFY Project coordinates efforts among FAO, OIE, and WHO to promote strengthening laboratory capacity across the region. The project pairs international reference laboratories with leading national laboratories in the region for knowledge sharing and troubleshooting. The United Kingdom and India are currently paired to focus on equine influenza.

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Mekong Basi
Disease Surv e

Activities/Projects:

- The Cross Border Information Exchange Schedule attempts to standardize reporting timelines for infectious disease cases. National MBDS coordinators and adjacent provincial site coordinators exchange routine surveillance data about suspected outbreaks. Influenza is a top priority disease and should be reported daily. The frequency of cross border information exchange varies by country. Cross border reports are traded between many different combinations of cities in Laos, Thailand, Vietnam, Cambodia, China, and Myanmar [4]
- Partnered with the Nuclear Threat Initiative, Global Health and Security Initiative (GHSI) supports the international health community to prevent, detect, and respond to biological threats by increasing human resource and surveillance capacity.[3] In 2008 NTI GHSI received a $2.5 million grant to respond to infectious disease outbreaks in Southeast Asia [4]

Tools/Resources:
GeoChat is a collaboration tool to escalate response to potential outbreaks. The hospital network of Thailand including over 900 facilities exchanges information and exchanges alerts to detect influenza outbreaks in real time from across the country. GeoChat is not yet used throughout the entire Mekong Basin region [5]

Pasteur Institute



Activities/Projects:

- The Pasteur Institute hosts a WHO reference laboratory for furthering research on influenza among other pathogens.
- The Severe Influenza in Africa and Asia study identifies factors that have been identified to be potentially associated with severe forms of influenza in the industrialized and developing world. The hypothesis is that the severity of influenza might be higher in developing countries compared to industrialized countries due to factors such as malnutrition and poor health systems. The lab runs case control studies to study these factors and influenza in Africa and Asia
- Reinforce Surveillance networks for flu viruses in Africa and Southeast Asia (DHHS)- This project's objectives are to reinforce surveillance networks for flu viruses in Africa and South East Asia, particularly regarding avian flu, as well as to perform epidemiological studies.

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Asia Partners
Emerging Infe , Research

Activities/Projects:

- APEIR was initiated in 2006 to promote regional collaboration on avian influenza research—the partnership expanded its scope in 2009 to include all emerging infectious diseases (EIDs). The network aims to accommodate, and facilitate the researchers with and within countries in order to support the activities on knowledge generation (i.e., through research), research capacity building (e.g., by coordinating multiple researchers in developing high-quality research proposals, planning and conducting joint research projects), and policy and social advocacy (e.g., by disseminating research results to policy makers) through the network and partnership.
- Mitigating Biosecurity Threats from Infectious Diseases with Pandemic Potential was a joint project between APEIR, MBDS, and ASEAN+3FETN. The underlying objective of the project is to strengthen regional capacity for understanding, preventing, preparing for, and responding to disease agents that have bioterrorism and/or pandemic potential in Southeast Asia. The collaborative research program seeks to understand the transmission dynamics of the aforementioned infectious disease pathogens in preparation for this regional development, and to encourage international research collaboration to increase Southeast Asia's overall research capacity. The transmission of influenza was included in the project as well as melioidosis, salmonella, and SARS.

- APEIR projects completed during it's first phase (2006-2009):
  - *Forming Regional Network for Surveillance and Monitoring of Influenza Viruses in Migratory Birds*
    Locations: Thailand, China, Indonesia, Vietnam
  - *Study on Socio Economic Impact of HPAI Outbreaks and Control Measures on Small Scale and Backyard Poultry Producers*
    Locations: China, Indonesia, Vietnam
  - Characteristics and Dynamics of Backyard Chicken Systems in 5 Asian Countries in Relations to Reduce and Manage Avian Influenza Risks
    Locations: Cambodia, Thailand, China, Indonesia, Vietnam
  - Policy Analysis for Pandemic Influenza Preparedness
    Locations: Indonesia, Thailand, Vietnam
  - Studies on the Effectiveness of Avian Influenza Control Measures
    Locations: China, Indonesia, Thailand, Vietnam

- APIFH Phase II- Building on past research on avian influenza and ongoing knowledge-translation activities in the health field, this new phase of work will help APCIR build and support regional capacity to communicate and share knowledge to promptly address emerging infectious disease threats

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Centers for Disease Cont



Activities/Projects:

- Global Disease Detection (GDD) was established to strengthen disease detection and response capacity globally. There are GDD centers in China, India, Bangladesh, and Thailand. One component focuses on pandemic influenza preparedness and response. GDD develops influenza surveillance capacity in host countries by improving and expanding global surveillance networks, increasing virus isolation, and improving epidemiological data collection. The CDC operates these GDD centers in Bangladesh, China, India, Thailand, and other countries outside of the SEA region. [7]

- WHO funds nine cooperative agreements with the ministries of health or designated institution by to identify, diagnose, and respond to seasonal, avian, and seasonal pandemic influenza in the SEA region. Six of the countries that received sustainability grants included Bangladesh, India, Indonesia, Nepal, Sri Lanka, and Thailand. These countries are expected to participate in WHO's GISRS while developing a surveillance system that will eventually phase out U.S. government funding.[8]

Tools/Resources:
Collaboration with WHO's FluNet

WHO



Activities/Projects:

- The WHO Global Influenza Surveillance and Response System (GISRS) monitors influenza viruses in the region GISRS has conducted influenza virological surveillance for over 50 years. The WHO GISRS monitors the evolution of influenza viruses and provides recommendations for laboratory diagnostics, vaccines, antiviral susceptibility and risk assessment. It also serves as a global alert system for the emergence of influenza viruses with pandemic potential.[10]
- Pandemic Influenza Preparedness (PIP) Plan framework used to monitor the spread of influenza A/H5 viruses in human and animal populations for Member States and stakeholders. Framework is used to assess the global trend of the disease, the public health risk it poses, its pandemic potential, and to trigger public health actions for pandemic preparedness.[11]

Tools/Resources:

(1) FluNet: a publically available da tabase for surveillance updated with influenza strains collected worldwide. This data helps to track the move- ment of viruses globally and interpret epidemiological data. [12]

(2) FluID: a global data sharing plat form to link regional influenza epi- demiological data into a single data- base. Provides connections between existing databases and compliments existing virological data collection tool FluNet. [13]

(3) WHO H5 Reference Laboratories Network: a component of GISRS in relation to avian influenza A(H5N1) infections in humans and influenza pandemic preparedness.[14]

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WHO Global Influenza Surveillance and Response System



- National Influenza Centre
- WHO Collaborating Centre for Reference and Research on Influenza
- WHO Collaborating Centre for the Surveillance, Epidemiology and Control of Influenza
- WHO Collaborating Centre for Studies on the Ecology of Influenza in Animals
- WHO Essential Regulatory Laboratory
- WHO H5 Reference Laboratory

Not applicable



National Insti
High Security al Diseases

Activities/Projects:

- The National Institute of High Security Animal Diseases (NIHSAD) of Indian Council of Agricultural Research is a leading institute of India for research on exotic and emerging pathogens of animals. With BSL-3+ features, this lab contributes to the research and surveillance of avian influenza.

Tools/Resources: BSL-3+ features

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Academic Engagement Partnership (AEP)
HDTRA1-14-C-0104

CBEP PACOM
Regional Landscape Analysis
Update to CBEP PACOM PM
16 July 2015

METABIOTA

Overview

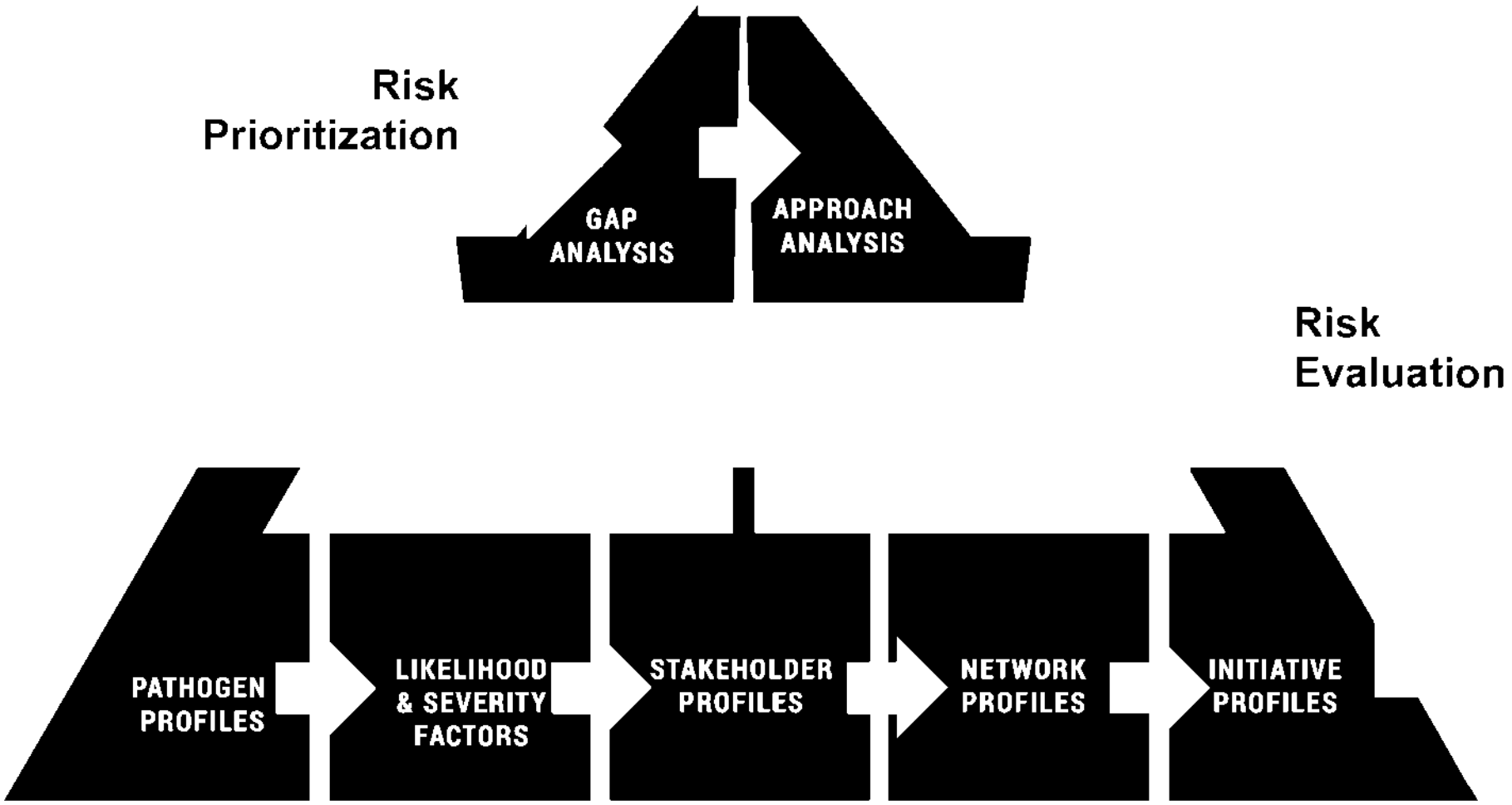
Purpose: To provide a regional landscape analysis that will support the development of the CBEP PACOM engagement strategy

Objectives:

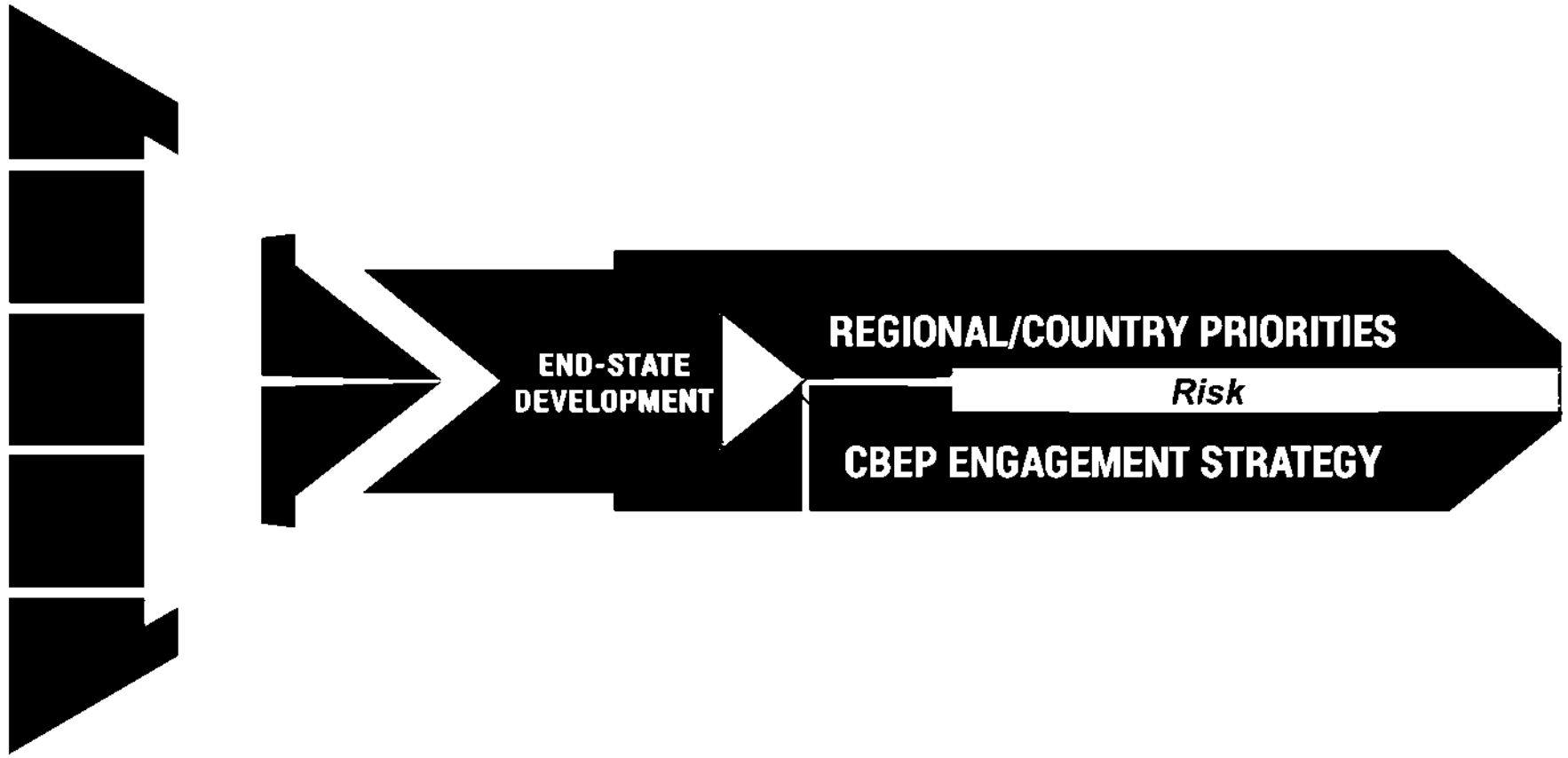
1) Characterize the regional disease landscape, organic capabilities, and external stakeholder influence to identify where priorities align with CBEP objectives
2) Identify needs, gaps, and areas of overlap with other stakeholders
3) Provide a framework that will inform strategic engagement planning

Outcomes: A narrative, biological risk based analysis to facilitate development of realistic, measurable, and achievable regional end-states

CBEP
END-STATE DEVELOPMENT



CBEP PACOM Biological Threat Reduction



Pathogen Profiles

	✓
QA/QC	8/1/15
	8/10/15

Select Agents		*USDA Select Agents*	*Agents with Potential Regional Significance*
Abrin	Marburg virus	Classical swine fever virus	Chikungunya virus
Bacillus anthracis	Ricin	Foot-and-mouth disease virus	Cholera
Botulinum neurotoxins	Rickettsia prowazekii	Newcastle disease virus	Dengue
Brucella spp.	SARS-CoV	Peste des petits ruminants virus	Hantavirus
Burkholderia spp.	Saxitoxin	Sheep and goat pox virus	Hepatitis
Conotoxins	Staphylococcal enterotoxins A,B,C,D,E	Rinderpest virus	HIV
Coxiella burnetii	T-2 toxin		Japanese encephalitis virus
Crimean-Congo hemorrhagic fever virus	Tetrodotoxin		Malaria
Diacetoxyscirpenol	Tick-borne encephalitis viruses		MERS-CoV
Ebola virus	Variola major virus (Smallpox virus)		Rabies virus
Francisella tularensis	Variola minor virus (Alastrim)		West Nile virus
Hendra and Nipah virus (Henipavirus)	Yersinia Pestis		Tuberculosis, including drug-resistant TB
Influenza (+Avian)			
Kyasanur Forest disease			



L&S Factors

	✓
QA/QC	7/31/15
	8/10/15

Factors that increase the likelihood and severity of a biological event with regional impact

Political: **Active terrorist groups such as the Bangsamoro Islamic Freedom Movement (BIFM) operating within the region increase the likelihood of an event**

Socio-Economic: **Contaminated water sources can increase the likelihood and severity of water-borne pathogen spread**

Cultural: **Burial practices involving direct contact with the body of the deceased increase the spread of Ebola**

Access and Expertise: **Diagnostic and scientific capacity including research capabilities may mitigate the impact of avian influenza within the region**

Environmental: **Floods can increase both human and animal migration as well as mosquito prevalence, which leads to an increase in vector-borne diseases**



Stakeholder Profiles

QA/QC	✓ 7/31/15 8/10/15

Governmental bodies, NGOs, and international organizations operating within the region

Governmental Bodies		*NGOs*	*International Organizations*
AFRIMS	Institut de recherche pour le développement (IRD)	MSF	International Livestock Research Institute (ILRI)
AHFSC-GEIS		EcoHealth Alliance	MORU/OUCRU
APEIR		The Bill and Melinda Gates Foundation	ADB
AusAID		The Wellcome Trust	Asian Healthcare Fund (AHF)
CDC		The Rockefeller Foundation	MBDS
USPACOM		Pierre Fabre Foundation	A-PBA
USAID			Mérieux Foundation
NAMRU-2; NMRC-A			Institut Pasteur
SEAFDEC			CGIAR Consortium
NIAID			
WHO (WPRO, SEARO)			



Network Profiles

	✓
QA/QC	7/31/15
	8/10/15

Interconnected labs and organizational networks

APEC - EINet
ASEAN - ABIID
WHO - GOARN, GPHIN, FluNet
GREASE Network (Management of Emerging Risks in SEA)
Merieux – The GABRIEL Network
Institut Pasteur International Network (RIIP)
SEAICRN – SEA Infectious Disease Clinical Network
ASEAN + 3 Field Epidemiology Training Network (FETN)
MBDS
Connecting Organizations for Regional Disease Surveillance (CORDS)
CDC Global Disease Detection (GDD) Network
EHA – OneHealth Alliance of SEA
MORU Tropical Health Network
OIE - Stop Transboundary Animal Diseases and Zoonoses (STANDZ)
SAARC Regional Laboratory Network
APEIR



Initiative Profiles

	✓
QA/QC	7/31/15
	8/10/15

Ongoing activities within the region

GHSA
FAO, OIE, WHO Global Early Warning System (GLEWS)
WHO GISRS
FAO HPED, IDENTIFY Project, ECTAD, The Emergency Centre for Trans-boundary Animal Diseases
CAREID
OHASA
USAID PREDICT
CIRAD: SEAe, BioDivHealthSEA, SEA-PREID, REVASIA

EHA: One Health Alliance of Southeast Asia, Pandemic Disease Research, Nipah Virus Research
MBDS, APEIR, ASEAN: *Mitigating Biosecurity Threats from Infectious Diseases with Pandemic Potential in SEA*
Institut Pasteur: ECOMORE, BIRDY Project
MBDS: Second Greater Mekong Sub-Region (GMS) Regional Communicable Diseases Control Project



Disease Landscape

	✓
QA/QC	8/14/15
	8/19/15

- Intentional Use
  - Large Scale
  - Medium Scale
  - Small Scale
- Naturally Occurring
  - Human to Human
  - Animal to Human
  - Vector to Human
- Accidental
  - External
  - Internal

Capacity Landscape

	✓
QA/QC	8/14/15
	8/19/15

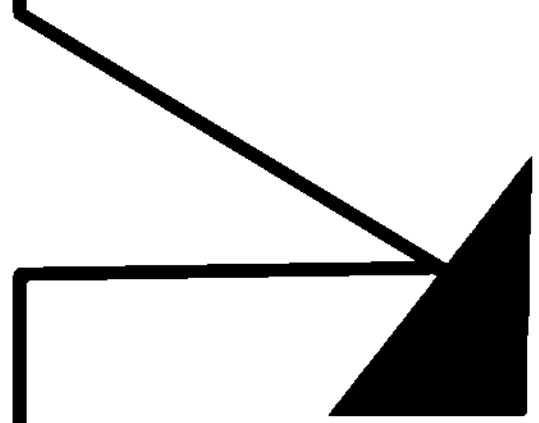
- Disease Detection, Diagnostics, Reporting
- BS&S
- Cooperative Biological Research



Gap Analysis

	✓
QA/QC	8/14/15
	8/21/15

- Disease detection, diagnostics, and reporting infrastructure?
- Biosafety & biosecurity capacity?
- Geographic coverage?
- Understanding of specific pathogen characteristics?



Approach Analysis

QA/QC	✓ 8/19/15 8/24/15

- Does it build capacity?
- Is it sustainable?
- Does it increase compliance?
- Does it foster meaningful collaboration?
- Does it increase the body of knowledge?

Value: Identification of proven techniques that can be leveraged or emulated to achieve CBEP Objectives

Approach Analysis

Example: USAID PREDICT Program

	Builds Capacity	Sustainable	Increases Compliance	Fosters Collaboration	Increases Body of Knowledge
Disease Detection, Diagnostics, Reporting	✓			✓	✓
BS&S					
Collaborative Biological Research	✓			✓	✓

Updated Proposal Risk Matrix

No.	Risk Factor/Rationale	Impact	Likelihood	Consequence	Current Risk Level	Mitigation	Likelihood	Consequence	Residual Risk
1	Short suspense on completing a useable document	Schedule and Performance	5	4		Metabiota will employ rigor around process with routine scheduling & deliverables to maintain target deadlines	3	3	Medium
2	Broad scope of analysis	Schedule and Performance	3	5		Metabiota will employ a feedback loop and routine course correction activities through engagement with CBEP PACOM leadership to ensure Scope stays focused on CBEP objectives	3	3	Medium
3	No forward presence in countries-difficult to achieve buy in and get access	Schedule and Performance	5	5		Metabiota will use personnel with local experience and subject matter expertise, as well as in country regional partners	3	3	Medium
4	Incomplete regional coverage- information is fragmented	Performance	5	5		Metabiota will work with stakeholders and provide a broader assessment of the region, in order to facilitate capturing hazards and capabilities, as well as opportunities to engage	3	3	Medium
5	Multiple country managers with different plans and objectives	Schedule and Performance	3	3	Medium	The team will engage country managers as a group and individually, to ensure that this assessment process assists them with their needs, as well as captures the data they collect in their country assessments to drive final results	2	3	Medium

Updated Proposal Risk Matrix

No.	Risk Factor/Rationale	Impact	Likelihood	Consequence	Current Risk Level	Mitigation	Likelihood	Consequence	Residual Risk
6	Massive amounts of data to sift through	Cost, Schedule & Performance	4	4	[redacted]	Metabiota will engage research analysts and SMEs to compile, coordinate and guide data collection process to include performing routine focused analysis of the data and impact to ensure it is delivered in a useable format to inform the strategic plan	2	1	[redacted]
7	Inability to obtain SMEs with appropriate expertise	Schedule and Performance	3	3	Medium	The Metabiota team will engage SMEs from across the scientific community to capture a larger range of expertise and specialization	2	2	
8	Low integration of other U.S. stakeholders	Schedule	3	3	Medium	Metabiota will ensure continuous outreach and collaboration with U.S. partners to maintain open lines of communication	2	2	
9	Underutilization of expatriate staff	Cost, Schedule & Performance	3	3	Medium	Metabiota will ensure that SMEs have adequate regional experience	2	2	
10	Embassy health working group agendas	Schedule and Performance	3	3	Medium	Development of the assessment, targeted communication strategies and clear engagement activities will reduce barriers faced through competing agendas	2	2	
11	Incomplete pathogen coverage	Performance	5	5	[redacted]	The Metabiota team will engage SMEs from across the scientific community to capture a larger disease landscape that considers threats, as well as opportunities	2	2	

Summary

Key Dates

- Basic Research Completed 7/30/15
- Disease and Capacity Landscapes 7/30/15
- Gap and Approach Analysis Drafts 8/21/15
- QA/QC Completion Date 8/21/15
- Independent Review 8/28/15
- Draft Deliverable Due 9/1/15
- Final Deliverable Due 10/1/15

More key dates in Project Schedule

Questions

Disease Landscape

Pathogen Profiles

Focus: Pathogens of security concern that can have a regional impact.

Areas of emphasis:

- Select Agents
- Naturally Endemic
- Pathogens with Pandemic potential
- Historical Outbreaks

Disease Landscape

Focus: Characterize the disease landscape, identify existing factors that impact the likelihood & severity of occurrence, assess existing regional capabilities, and prioritize efforts that can help minimize risk.

Event Type	Pathogen	Likelihood Factors	Severity Factors	Baseline Risk	Capacity	Residual Risk
Intentional						
Naturally Occurring						
Accidental						

Disease Landscape

Example: Avian Influenza

Event Type	Pathogen	Likelihood Factors	Severity Factors	Baseline Risk	Capacity	Residual Risk
Naturally Occurring	Avian Influenza	Addressable: Infrastructure, Trade Not Addressable: Border Conflict, Political Unrest, Agrarian Society, Poverty	Addressable: Education, Infrastructure, Trade, Transportation, Animal Migration Not Addressable: Border Conflict, Political Unrest, Meteorological, Malnutrition, Agrarian Society, Poverty	High	APEIR with MBDS and ASEAN +3 FETN; MBDS; GeoChat (MBDS, Hospital Network of Thailand); OIE Country Reporting; Singapore Infectious Disease Reporting System; Institut Pasteur; WHO GISRS; CDC Global Disease Detection; CIRAD; FAO GLEWS, HPED, IDENTIFY Project; UN System Influenza Coordination (UNSIC); FAO ECTAD	High

Disease Landscape

Example: Avian Influenza

Event Type	Pathogen	Likelihood Factors	Severity Factors	Baseline Risk	Capacity	Residual Risk
Naturally Occurring	Avian Influenza	Addressable: Infrastructure, Trade Not Addressable: Border Conflict, Political Unrest, Agrarian Society, Poverty	Addressable: Education, Infrastructure, Trade, Transportation, Animal Migration Not Addressable: Border Conflict, Political Unrest, Meteorological, Malnutrition, Agrarian Society, Poverty		Institut Pasteur; WHO GISRS; CDC Global Disease Detection; CIRAD; FAO GLEWS, HPED, IDENTIFY Project; UN System Influenza Coordination (UNSIC); FAO ECTAD	

Unable to address

Disease Landscape

Example: Avian Influenza

Event Type	Pathogen	Likelihood Factors	Severity Factors	Baseline Risk	Capacity	Residual Risk
Naturally Occurring	Avian Influenza	Addressable: Infrastructure, Trade Not Addressable: Border Conflict, Political Unrest, Agrarian Society, Poverty	Addressable: Education, Infrastructure, Trade, Transportation, Animal Migration Not Addressable: Border Conflict, Political Unrest, Meteorological, Malnutrition, Agrarian Society, Poverty		APEIR with MBDS and ASEAN +3 FETN; MBDS; GeoChat (MBDS	

Able to address with Increased capacity in disease detection, diagnostics, and reporting

Disease Landscape

Example: Avian Influenza

Event Type	Pathogen	Likelihood Factors	Severity Factors	Baseline Risk	Capacity	Residual Risk
Naturally Occurring	Avian Influenza	Addressable: Infrastructure, Trade	Addressable: Education, Infrastructure, Meteorological, Malnutrition, Agrarian Society, Poverty		APEIR with MBDS and ASEAN +3 FETN; MBDS; GeoChat (MBDS, Hospital Network of Thailand); OIE Country Reporting; Singapore Infectious Disease Reporting System; Institut Pasteur; WHO GISRS; CDC Global Disease Detection; CIRAD; FAO GLEWS, HPED, IDENTIFY Project; UN System Influenza Coordination (UNSIC); FAO ECTAD	

Regional capacity may reduce likelihood and severity – if not addressed by current stakeholders, a gap exists

Quality Assurance/Quality Control

- We will utilize SME expertise to determine underlying confidence in collected information and to ensure accuracy of the analysis. Information will be classified into three categories:
  1. Info is known or verifiable ●
  2. Info is generally accepted but not directly verifiable ○
  3. Info cannot be verified or is inference-based ●



Avian Influenza

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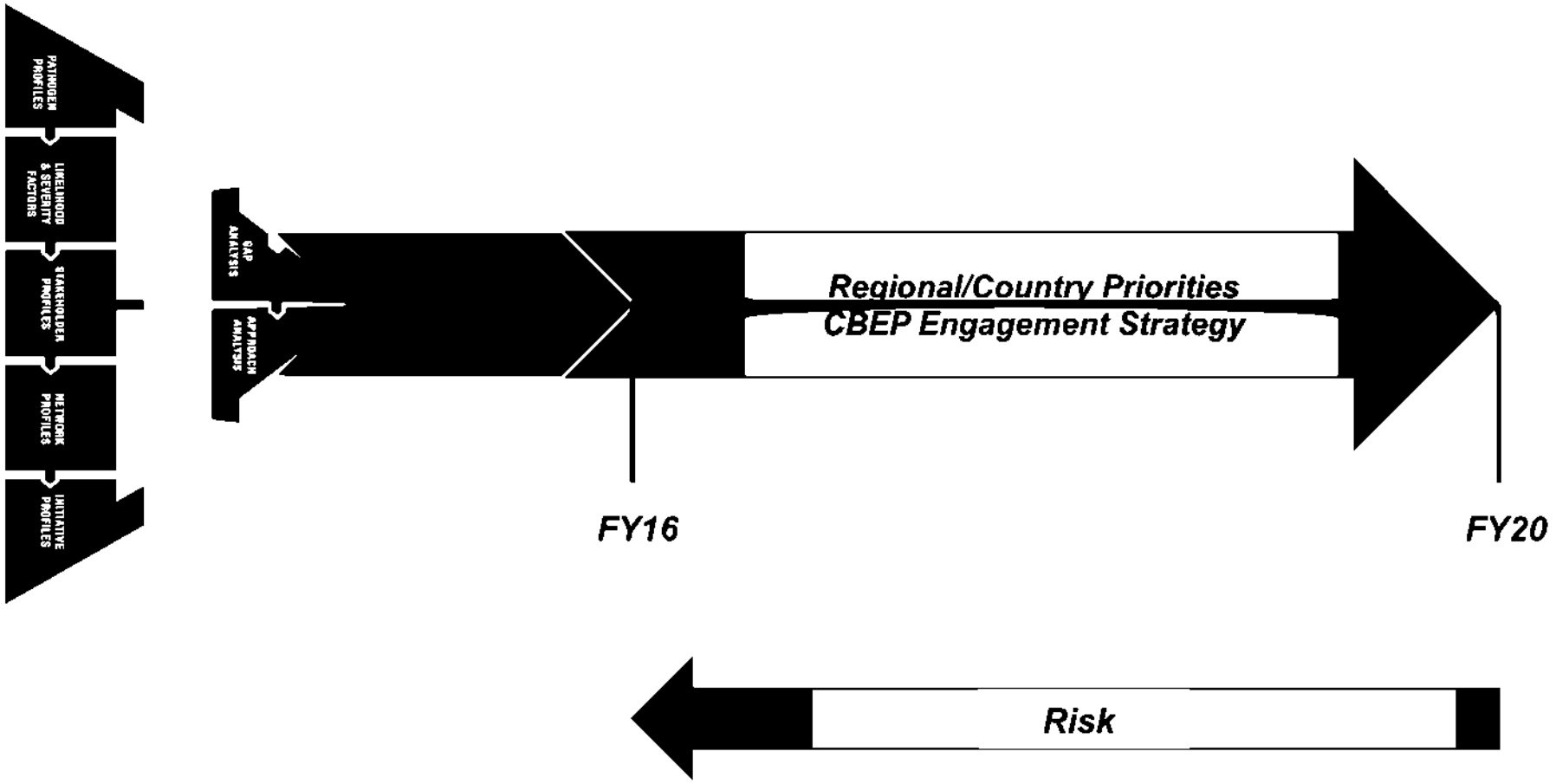
Gap Analysis

	Avian Influenza	Bacillus Anthracis	Yersinia Pestis	Botulinum Toixn	JEV	SARS-CoV
Disease Detection, Diagnostics, Reporting	✓					
BS&S	✓					
Emerging Infectious Disease Research	-					

Biological Threat Reduction



From: (b)(6)
To:
Cc:

Subject: Metabiota TD-003_India
Date: Wednesday, May 27, 2015 5:53:56 PM
Attachments: CTR-CBEP_Metabiota AEP TD-003_India_27May2015.pdf

H (b)(6)

Please find attached Technical Direction for implementing a study on the risk of bat-borne virus transmission from the annual bat cull in Nagaland, India. A proposal and estimated budget for this activity is requested NLT 10 June 2015. Please feel free to communicate directly with the CBEP POCs for this TD (b)(6) if you have any questions about the requirement.

Cheers,

(b)(6)

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

May 26, 2015

Metabiota
(b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for the Study of the Risk of Bat-borne Virus Transmission from the Annual Bat Cull in Nagaland, India.

Dear (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to administer a study of the Risk of Bat-borne Virus Transmission from the Annual Bat Cull in Nagaland in accordance with SOW Section 4.3, Task 3. This study will determine the virus community of three species of bats in a cave in Nagaland, India and if there is a risk of human infection. This particular site is very important because there is an annual bat harvest in October where numerous individuals from surrounding villages visit. This study will sample this cave for the presence of known select agents that are naturally harbored by bats and that have caused mortality in humans. Metabiota shall visit this site three times to collect bat excreta, urine, oral swabs, anal swabs, blood, sera, and tissues (kidney, spleen, lung, intestine) from harvested bats. The first visit will be 4-6 weeks before the bat harvest to ascertain the base line level of prevalence, the second trip will be during the harvest, and the third trip will be 4-6 weeks after the harvest. A proposal and estimated budget not to exceed $150,000 for implementing this requirement is requested by 10 June 2015.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with DTRA CBEP Points of Contacts listed below.

CBEP POCs: India Country Manage (b)(6)
(b)(6) TCOM Regional Science Manage (b)(6)

Attachment List: None

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

Sincerely,

5/27/2015

X (b)(6)

(b)(6)

COR/J3CTB Deputy Chief Scientist

Signed by: (b)(6)

Cc (b)(6)

(b)(6)

Metabiota Inc.
Contract No: HDTRA1-14-C-0104
TD: 0004

Content: Updated Budget Narrative Supporting TD 0004 "DTRA/CBEP Implementation of an Epigenetics and Genomics of Infectious Diseases Workshop in the Middle East South Asia Region" based on request by CBEP Regional Leadership to extend the Period of Performance (PoP) from 30 November 2015 to 15 May 2016 and revise the project schedule.

Budget Narrative

Following conversations with (b)(6) it was determined that the project period of performance, schedule, and additional performance requirements be amended to guarantee successful implementation of the MESA Epigenetics and Genomics of Infectious Diseases Workshop. The extension of the project will ensure there is sufficient time for PAO approval of all workshop related materials to include, but not limited to, the following:

- Conference Announcement
- Registration Guidelines
- Abstract Submission Guidelines
- Abstract Licensing and Publishing Agreement
- Travel Support Request
- Permission for Attendance
- Website submission forms and applications
- Workshop Website

Solicitation of participants across the region cannot begin until the website is operational and all documents are approved. Once the website is up and running, sufficient time must be allotted for participants to submit for attendance, provide abstracts, Scientific Advisory Board review and selection, notification, and travel arrangements made. Extending the PoP allows the above mentioned activities to be completed in an optimal timeframe, ensuring scientific integrity and rigor is applied to the event. In addition, extending the PoP allows for additional activities to be conducted that will support the successful outcome of the event, to include garnering sufficient regional support and interest to attract an ideal number of participants from varying scientific backgrounds and countries.

Extending the PoP will provide a forum for the following:

This material shall not be disclosed outside the U.S Government and shall not be duplicated, used or disclosed in a whole or in part for any purpose other than to evaluate this material. If, however, a contract is awarded to this offeror as a result of- or in connection with- the submission of this material, the U.S Government shall have the right to duplicate, use or disclose the data to the extent provided in the resulting contract. This restriction does not limit the U.S Government's right to use information contained in this material if it is obtained from another source without restriction.

1) Preparation of a conference proceedings report that describes the state of the science in the MESA region for genomics and epigenetics of infection and possible synergies for cooperation among conference attendees. The proceedings report will include two components: 1) a narrative prepared by Gryphon Scientific and the Jordan Royal Scientific Society (RSS); and 2) papers submitted by conference presenters for inclusion in the proceedings book.
2) Request presenters to submit papers for inclusion in the proceedings book. Submission of papers will be optional. Gryphon Scientific staff will proofread and edit the papers prior to inclusion in the report.
3) Conduct an outreach reception for science and cultural attaches of country Embassies located in Washington, DC. The purpose of this reception is to inform Embassies about the conference and encourage their assistance in informing leading scientific organizations and scientists in their respective countries about the conference. This reception will provide an opportunity for Embassy staff to ask questions formally and informally to Gryphon Scientific, Metabiota, and DTRA. Staff from the Department of State's country or regional desks, International Security and Nonproliferation Bureau, and OES Bureau will be invited to the reception. If the Office of Naval Research Global (ONRG) program manager (who has provided RSS with funds to support its work on the conference) is in Washington, DC, she will be invited to participate.

These additional activities, that fall within the scope of this project, will ensure a successful event that promotes the CBEP mission within the region and fosters a collaborative environment of scientific engagement based on strong scientific integrity, attention, and allows for an optimal timeframe in which to host the workshop and ensure the most diverse and relevant group of attendees is selected and supported. Costs incurred to support the extension will involve additional labor hours of key personnel, and CLS support for the outreach reception held with the S&T leads at US Embassies in Washington D.C.

Period of Performance

The Period of Performance for this effort has been extended. It is revised to June 1, 2015 to May 15, 2016.

Labor

To accommodate the extended period of performance, conduct the original scope of work, and conduct the requested additions to the scope of work, an increase in labor hours and costs of project personnel is requested. All other direct costs will remain the same. These changes result in a final project budget of $488,040 which is an increase of $94,490.

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The new period of performance extends the original contract by 5.5 months, which allows all project staff and collaborators to carry out conference planning to the optimal extent. To accommodate this, we propose the following additions to project staff hours:

Metabiota Program Manager (b)(6)
LOE: 475 Hours
(b)(6) total hours will be increased from 300 to 425 to allow for continued program management activities and oversight for the duration of the period of performance. Tasks will include: overseeing project personnel in the execution of requirements and implementing the workshop, managing project deliverables, including submission of requirements to CBEP, tracking project requirements, interacting and reporting to CBEP personnel providing project visibility and coordination, financial monitoring, coordination and management of Gryphon Scientific personnel, and coordination with RSS to ensure deliverables are met and workshop is implemented. She will ensure overall logistical management of the event, and make sure the project is on track and completed within scope and budget. She will travel to Jordan in support of the workshop to provide on the ground coordination with CLS, Gryphon, and RSS to ensure smooth implementation of the event.

Research and Data Analysts

Metabiota Project Coordinator (b)(6)
LOE: 452 Hours
(b)(6) hours will be increased from 396 to 417 allowing for continued project coordination throughout the duration of the period of performance. Activities will continue to include day-to-day coordination of the project, communication with collaborators, processing of project documents, attendance of the conference, and general travel and CLS support.

Gryphon Junior Analyst (b)(6)
LOE: 340 Hours
The Junior Analyst's total hours will increase from 115 to 340, spending approximately 50% of her time until the conference identifying experts working in relevant fields and on relevant research through extensive literature review, assisting the abstract submission and review process, assisting the travel application and review process, preparing the traveler information for conference attendees, and preparing the abstract book.

Gryphon Contract Administrator (b)(6)
LOE: 100 Hours
(b)(6) total hours will increase from 95 to 100, allotting for preparation of purchase orders with the graphic designer and website developer, review of invoices, and assistance with development of a memorandum of understanding between Gryphon Scientific and RSS.

Subject Matter Experts

Gryphon Principal Investigator (b)(6)
Subject Matter Expert III
LOE: 500 Hours
(b)(6) total hours will remain at 500, spending an average of 25% of her time on the site visit, conference planning and facilitation, Embassy outreach reception, scientific advisory board interactions, agenda development, invitation of invited speakers, and preparation of the proceedings reports.

Gryphon Senior Analyst (b)(6)
Subject Matter Expert I
LOE: 390 Hours
(b)(6) otal hours will increase from 225 to 390, spending an average of 25% of her time on conference planning, design of the conference logo, abstract review, travel applications and review, informing of prospective attendees of their acceptance and presentation format, copy edit of the abstract book and submitted papers, review of the proceedings report, and attendance at Embassy outreach reception.

Gryphon Senior Analyst (b)(6)
Subject Matter Expert I
LOE: 750 Hours
(b)(6) tal hours will increase from 400 to 750, spending an average of 45% of his time on the site visit, conference planning, conference website development, abstract submission and review, Embassy outreach reception, agenda development, informing of prospective attendees of their acceptance and presentation format, oversight of preparation of the abstract book, preparation of the proceedings report, and editing of submitted papers.

Additional costs for direct labor supporting the Deputy Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials

CLS will print and bind the proceedings books and carry out all logistics for the Embassy outreach reception. This function is in addition to CLS's other responsibilities for this project, which are: all logistics, including catering, staff, and participant travel for the conference; staff travel prior to the conference; and printing and shipping of the abstract books. Costs for both the proceedings book and the Embassy outreach reception are not included in the revised budget, since they fall within the scope of CLS's contract.

Costs for the workshop website were reduced following final negotiation and procurement of services with the vendor.

Other Direct Costs

The information contained herein is Metabiota PROPRIETARY information and may include Metabiota CONFIDENTIAL information and shall not be disclosed outside of the U.S. Government.

No additional costs are requested. Costs for SoS insurance were reduced to reflect SoS support for (b)(6) only, to attend the workshop in March.

Subcontracts

Gryphon Scientific's subcontract will be modified to increase their labor support for the extended period of performance. Costs are captured under the appropriate labor categories in CLIN 1002.

Travel

Travel costs are increased to requested the attendance of (b)(6) on the scoping visit in conjunction with (b)(6) Program Manager and (b)(6) Gryphon Senior Analyst to travel to Amman, Jordan in October 2015. The scoping visit is critical for meeting with RSS key personnel supporting this engagement to include members of the scientific board, and to ensure in-country logistical support services being provided by CLS in support of this event are captured and clearly communicated to support implementation, and to ensure all facility and hosting requirements are in place to facilitate this event.

Metabiota team travel to the Workshop has been reduced from 4 participants to 3, in an attempt to reduce costs, and in exchange for (b)(6) attending the scoping visit in October.

Conclusion

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP CENTCOM in the implementation of the DTRA/CBEP Epigenetics and Genomics of Infectious Diseases Workshop in the Middle East South Asia Region. Metabiota will ensure, through strong project management and risk mitigation that the training will be executed in an efficient and timely manner delivering a top quality course geared to support enhanced biosurveillance and biosafety efforts in the region.

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Revised Project Schedule
PoP: 1 June 2015 – 15 May 2016

Key dates

2015

7/27: First Meeting of Scientific Advisory Board (virtual, half-day)
8/24 (week of): invite the invited speakers
September: Embassy outreach reception
10/9: Abstract submission deadline
10/11-10/13 (2 days): Visit RSS to prepare for conference
10/14: Abstracts distributed to review board
10/23: Abstract review deadline (online)
10/26 (week of): Advisory board review meeting (virtual, half-day)
10/30: Send Metabiota/DTRA preferred requirements
11/4: Registration and travel support application deadline
11/2 or 3: Send Final Results of Selected Abstract Assignment for Confirmation
11/6: Confirm Final Results of Selected Abstract Assignment (online)
11/9 (week of): Notify applicants of decision
11/16: Send abstracts to DTRA
12/7: Complete Travel Training Requirements for U.S. citizens (online)

2016

1/4/2016: Send Travel Information for all supported travelers to DTRA
1/4/2016: Drafts of posters deadline for DTRA funded research
1/5/2016: Send draft poster/talks to Metabiota/DTRA for review for DTRA funded research
1/25/2016: Deadline to complete Abstract Book to send to CLS for printing
3/7/2016-3/8/2016: Conference (Amman, Jordan)
3/9/2016: half-day after action meeting with Gryphon, Metabiota, DTRA, CLS, RSS, and ONRG
4/1/2016: Deadline for proceedings book to DTRA

Confirmed advisory board members

1. [redacted] (b)(6) al Committee on Ethics, Jordan
2. [redacted] ordan Royal Scientific Society, Jordan
3. [redacted] sity of Jordan, Jordan
4. [redacted] an Academy of Sciences, Pakistan
5. [redacted] University of Connecticut
6. [redacted] MPH, Unite Nations Population Fund, Afghanistan
7. [redacted] yphon Scientific, USA
8. [redacted] University, UAE
9. [redacted] enter for Disaster and Humanitarian Assistance Medicine, Iraq

Three additional members have been invited.

Metabiota Inc.
Contract No: HDTRA1-14-C-0104
TD: 015

Content: Budget Narrative Supporting TD-015 "Technical Direction for Continued Health Informatics Support in Vietnam" based on request by CBEP Regional Leadership to ensure completion and delivery of the final report created by (b)(6) in support of this effort.

Budget Narrative

Metabiota was previously issued a Technical Direction Memo to proceed with the fulfillment of a Global Health Security Information Systems and Surveillance contract position to be stationed in Vietnam; authorizing disclosure of position requirements and soliciting candidates for the position. In support of this effort, (b)(6) promoted reducing biological threats, engaging scientists through cooperative pursuits, and enhancing host-nation capacity in disease surveillance and response, while adhering to international codes of security and safety to ultimately provide a mechanism for sustained engagement.

The extension of the project will ensure there is sufficient time for de-briefing meetings with in-country personnel as well as editing and preparing the report for submission to CBEP.

Continuing support of this project will provide a forum for the following:

1) The Vietnamese Tet holiday held previously in the year has delayed the timeline for accomplishing established goals. Extending the project will ensure that (b)(6) has time to finish working with in-country partners to expedite the assessment and ensure all activities are completed prior to his departure from the country.
2) Ensuring time for editing and preparation of the final report for submission of polished, high quality deliverable to CBEP.

These additional activities that fall within the scope of this project will ensure a successful report that promotes the CBEP mission within the region and fosters a collaborative environment of scientific engagement based on strong scientific integrity, attention, and allows for an optimal timeframe in which to complete the final deliverable. Costs incurred to support this extension will involve additional labor hours of key personnel.

Period of Performance

The Period of Performance for this effort is May 16, 2015 to June 30, 2015.

This material shall not be disclosed outside the U.S Government and shall not be duplicated, used or disclosed in a whole or in part for any purpose other than to evaluate this material. If, however, a contract is awarded to this offeror as a result of- or in connection with- the submission of this material, the U.S Government shall have the right to duplicate, use or disclose the data to the extent provided in the resulting contract. This restriction does not limit the U.S Government's right to use information contained in this material if it is obtained from another source without restriction.

Labor

To accommodate the extended period of performance, conduct the original scope of work, and conduct the requested additions to the scope of work, an increase in labor hours and costs of project personnel is requested. All other direct costs will remain the same. These changes result in a final project budget of $51,804.80.

The new period of performance extends the original contract by 1.5 months, which allows (b)(6) (b)(6) to finish his final report to the optimal extent. To accommodate this, we propose the following additions to project staff hours:

Metabiota Program Manager (b)(6)
LOE: 8 Hours
(b)(6) hours will total 8 hours during this period to allow for continued program management activities and oversight for the duration of the period of performance. Tasks will include: overseeing project personnel in the execution of requirements, managing project deliverables, including submission of requirements to CBEP, interacting and reporting to CBEP personnel providing project visibility and coordination, financial monitoring, coordination and management, and coordination with (b)(6) to ensure deliverables are met, and contract is closed out. She will ensure that the project is finalized and closed out accordingly with all deliverables submitted to CBEP and CDC personnel.

Health Informatics Specialist (b)(6)
LOE: 176 Hours
(b)(6) hours will total 176 hours in this period, allowing for continued contact with in-country partners and completion of the evaluation report in a timely manner in order to identify gaps in the capability and capacity of the existing disease reporting and response systems, as well as supporting information systems software and other tools to meet the Vietnam National and International Health Regulation's (IHR 2005) reporting requirements in the scope of GHS Agenda.

Other Direct Costs

No additional costs are requested. Costs for DBA insurance were previously incurred for (b)(6) (b)(6) time in Vietnam.

Conclusion

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP PACOM in the continuation of Health

The information contained herein is Metabiota PROPRIETARY information and may include Metabiota CONFIDENTIAL information and shall not be disclosed outside of the U.S. Government.

Informatics support in Vietnam. Metabiota will ensure, through strong project management and risk mitigation that the engagement will be executed in an efficient and timely manner delivering a top quality deliverable geared to support enhanced capability and capacity of existing disease reporting and response systems within the region.

The information contained herein is Metabiota PROPRIETARY information and may include Metabiota CONFIDENTIAL information and shall not be disclosed outside of the U.S. Government.

OPTION YEAR - SOW Section 4.3, Task 5 Implementation of an Epigenetics and Genomics

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: July 20, 2015
PERIOD OF PERFORMANCE: Jun 1 2015 - May 15 2015
PROJECT: Epigenetics & Genomics Workshop - Jordan

oaded based on rate card):		**LOE Hours**		**Amount**
	(b)(4); (b)(6)	475	$	(b)(4); (b)(6)
CLIN 1002		892	$	
CLIN 1002		1,140	$	
CLIN 1002		500	$	
	Total Labor Costs (fully loaded):	**3,007**		
	OTHER DIRECT COSTS *(fully loaded):*			
	CLIN 1003 Materials		$	28,708.44
	CLIN 1004 ODCs		$	5,342.60
	CLIN 1005 Travel		$	48,764.00
	(b)(4); (b)(6)			(b)(4); (b)(6)

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 7/20/2015
Project: Epigenetics & Genomics Workshop - Jordan
Period of Performance: Jun 1 2015 - May 15 2016

CLIN No.	Name	Labor Description	Project Role	Cost	Total Hours	Total Billable Amount $
CLIN 1002	(b)(4); (b)(6)	Program Manager	Not Directly Program Manager	$	475	
CLIN 1002		Research and Data Analyst	Not Directly Project Coordinator	$	452	
CLIN 1002		Research and Data Analyst	Graphics Junior Analyst	$	340	
CLIN 1002		Research and Data Analyst	Graphics Contract Administrator	$	100	
CLIN 1002		SME I	Graphics Senior Analyst	$	750	
CLIN 1002		SME I	Graphics Senior Analyst	$	390	
CLIN 1002		SME III	Graphics PI	$	500	
					3,007	

(b)(4); (b)(6)

(b)(4); (b)(6)

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 7/20/2015
Project | Epigenetics & Genomics Workshop - Jordan
Period of Performance: Jun 1 2015 - May 15 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1003	Publication Design Costs - Abstract Book	$ 2,021	1	2,021
CLIN 1003	Workshop Website	$ 25,250	1	25,250
		Sub-Total		27,271

[redacted]

(b)(4); (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 7/20/2015
Project I Epigenetics & Genomics Workshop - Jordan
Period of Performance: Jun 1 2015 - May 15 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1004	SOS Insurance	$ 500.00	1	500
CLIN 1004	DBA Insurance	$ 3,591.44	1	3,591
		Sub-Total		4,091

(b)(4); (b)(6)

PROJECTED TRAVEL COSTS - JORDAN

Traveler:	Foreign (b)(6),(b)(4),(b)(6)
Departure Location:	Los Angeles, CA
Destination:	Amman, Jordan
Purpose:	Scoping Visit
Airfare	$ 2,900.00
Service Fee/Airfare	$ 43.00
Lodging/ 4 nights	$ 996.00
Meals / Incidentals (2 travel days; 3 full days)	$ 634.50
Ground Transport/US	$ 300.00
Ground Transport/Jordan	$ 200.00
Registration Fee	$ -
Vaccinations	$ -
Other (comm costs, Internet etc)	$ -
Visa (business/ 6mo/multi-entry)	$ 301.50
# of Full Days	5
Total Per Trip	$ 5,375.00
No. of trips	1
No. of persons	1
SUBTOTAL:	**$ 5,375.00**
TOTAL TRAVEL BUDGET:	**$5,375**

Traveler:	Foreign (b)(6),(b)(6),(b)(4),(b)(6)
Departure Location	Washington, DC
Destination	Amman, Jordan
Purpose:	Scoping Visit
Airfare	$ 2,700.00
Service Fee/Airfare	$ 43.00
Lodging/ 4 nights	$ 996.00
Meals / Incidentals (2 travel days; 3 full days)	$ 634.50
Ground Transport/US	$ 300.00
Ground Transport/Jordan	$ 200.00
Registration Fee	$ -
Vaccinations	$ -
Other (comm costs, Internet etc)	$ -
Other/visa (business/ 6mo/multi-entry)	$ 301.50
# of Full Days	5
Total Per Trip	$ 5,175.00
No. of trips	1
No. of persons	2
SUBTOTAL:	**$ 10,350.00**
TOTAL TRAVEL BUDGET:	**$10,350**

Traveler:	Foreign (b)(6),(b)(6),(b)(4),(b)(6)
Departure Location:	Washington, DC
Destination:	Amman, Jordan
Purpose:	Conference & Hot Wash
Airfare	$ 1,950.00
Service Fee/Airfare	$ 43.00
Lodging/ 6 nights	$ 1,494.00
Meals / Incidentals (2 travel days;5 full days)	$ 916.50
Ground Transport/US	$ 300.00
Ground Transport/Jordan	$ 200.00
Registration Fee	$ -
Vaccinations	$ -
Other (comm costs, Internet etc)	$ -
Other/visa (business/ 6mo/multi-entry)	$ 904.50
# of Full Days	7
Total Per Trip	$ 5,808.00
No. of trips	1
No. of persons	3
SUBTOTAL:	**$ 17,424.00**
TOTAL TRAVEL BUDGET:	**$ 17,424.00**

USG Foreign Per Diem Rates
(http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1160)

Location	Maximum Lodging	M&IE	Total
Amman, Jordan	249	141	390
Other, Jordan	146	105	251

OPTION YEAR - SOW Section 4.3, Task 5 Implementation of an Epigenetics and Genomics

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: July 20, 2015
PERIOD OF PERFORMANCE: Jun 1 2015 - May 15 2015
PROJECT: Epigenetics & Genomics Workshop - Jordan

oaded based on rate card):		LOE Hours		Amount
	(b)(4); (b)(6)	475	$	(b)(4); (b)(6)
CLIN 1002		892	$	
CLIN 1002		1,140	$	
CLIN 1002		500	$	
Total Labor Costs (fully loaded):		**3,007**		
OTHER DIRECT COSTS *(fully loaded):*				
CLIN 1003 Materials			$	28,708.44
CLIN 1004 ODCs			$	5,342.60
CLIN 1005 Travel			$	48,764.00
	(b)(4); (b)(6)			(b)(4); (b)(6)

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 7/20/2015
Project: Epigenetics & Genomics Workshop - Jordan
Period of Performance: Jun 1 2015 - May 15 2016

CLIN No.	Name	Labor Description	Project Role	Cost	Total Hours	Total Billable Amount $
CLIN 1002	(b)(4); (b)(6)	Program Manager	Metabiota Program Manager	$ (b)(4); (b)(6)	475	(b)(4); (b)(6)
CLIN 1002		Research and Data Analyst	Metabiota Project Coordinator	$	452	
CLIN 1002		Research and Data Analyst	Gryphon Junior Analyst	$	340	
CLIN 1002		Research and Data Analyst	Gryphon Contract Administrator	$	100	
CLIN 1002		[redacted]	Gryphon Senior Analyst	$	750	
CLIN 1002		SME I	Gryphon Senior Analyst	$	390	
CLIN 1002		SME III	Gryphon PI	$	500	
					3,007	

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 7/20/2015
Project Epigenetics & Genomics Workshop - Jordan
Period of Performance: Jun 1 2015 - May 15 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1003	Publication Design Costs - Abstract Book	$ 2,021	1	2,021
CLIN 1003	Workshop Website	$ 25,250	1	25,250
		Sub-Total		27,271

(b)(4);(b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 7/20/2015
Project I Epigenetics & Genomics Workshop - Jordan
Period of Performance: Jun 1 2015 - May 15 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1004	SOS Insurance	$ 500.00	1	500
CLIN 1004	DBA Insurance	$ 3,591.44	1	3,591
		Sub-Total		4,091

(b)(4) (b)(6)

PROJECTED TRAVEL COSTS - JORDAN

Traveler:	(b)(4) (b)(6)
Departure Location:	Los Angeles, CA
Destination:	Amman, Jordan
Purpose:	Scoping Visit
Airfare	$ 2,900.00
Service Fee/Airfare	$ 43.00
Lodging/ 4 nights	$ 996.00
Meals / Incidentals (2 travel days; 3 full days)	$ 634.50
Ground Transport/US	$ 300.00
Ground Transport/Jordan	$ 200.00
Registration Fee	$ -
Vaccinations	$ -
Other (comm costs, Internet etc)	$ -
Visa (business/ 6mo/multi-entry)	$ 301.50
# of Full Days	5
Total Per Trip	$ 5,375.00
No. of trips	1
No. of persons	1
SUBTOTAL:	**$ 5,375.00**
TOTAL TRAVEL BUDGET:	**$5,375**

Traveler:	(b)(4) (b)(6)
Departure Location	Washington, DC
Destination	Amman, Jordan
Purpose:	Scoping Visit
Airfare	$ 2,700.00
Service Fee/Airfare	$ 43.00
Lodging/ 4 nights	$ 996.00
Meals / Incidentals (2 travel days; 3 full days)	$ 634.50
Ground Transport/US	$ 300.00
Ground Transport/Jordan	$ 200.00
Registration Fee	$ -
Vaccinations	$ -
Other (comm costs, Internet etc)	$ -
Other/visa (business/ 6mo/multi-entry)	$ 301.50
# of Full Days	5
Total Per Trip	$ 5,175.00
No. of trips	1
No. of persons	2
SUBTOTAL:	**$ 10,350.00**
TOTAL TRAVEL BUDGET:	**$10,350**

Traveler:	(b)(4) (b)(6)
Departure Location:	Washington, DC
Destination:	Amman, Jordan
Purpose:	Conference & Hot Wash
Airfare	$ 1,950.00
Service Fee/Airfare	$ 43.00
Lodging/ 6 nights	$ 1,494.00
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Ground Transport/Jordan	$ 200.00
Registration Fee	$ -
Vaccinations	$ -
Other (comm costs, Internet etc)	$ -
Other/visa (business/ 6mo/multi-entry)	$ 904.50
# of Full Days	7
Total Per Trip	$ 5,808.00
No. of trips	1
No. of persons	3
SUBTOTAL:	**$ 17,424.00**
TOTAL TRAVEL BUDGET:	**$ 17,424.00**

USG Foreign Per Diem Rates
(http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1160)

Location	Maximum Lodging	M&IE	Total
Amman, Jordan	249	141	390
Other, Jordan	146	105	251

OPTION YEAR - SOW Section 4.3, Task 2 Continued Health Informatics Support in

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: August 11, 2015
PERIOD OF PERFORMANCE: May 16 2015 - June 30 2015
PROJECT: Health Informatics Support - Vietnam

oaded based on rate card):		**LOE Hours**		**Amount**
	(b)(4); (b)(6)	8	$	(b)(4); (b)(6)
CLIN 1002		176	$	
Total Labor Costs (fully loaded):		**184**	**$**	
Total:				

LABOR ESTIMATE

Contract Name: Academic Engagement Partnership Program
Contract Number: HDTRA1-14-C-0104
Date Prepared: 7/20/2015
Project: Health Informatics Support - Vietnam
Period of Performance: May 16 2015 - June 30 2015

CLIN No.	Name	Labor Description	Project Role	Cost	Total Hours	Total Billable Amount $
CLIN 1002	(b)(4); (b)(6)	Program Manager	Principal Program Manager	$	(b)(4); (b)(6)	
CLIN 1002		Visiting Scientist	Mid-Senior Health Informatics Specialist	$		

Metabiota's Technical and Cost Proposal

"Kenya One Health Zoonotic Disease Technical Writing Workshop"

Technical Direction Number: TD-014
Contract Number: HDTRA1-14-C-0104
CAGE Code: 56SP4
DUNS number: 828131156

Small US Business
Metabiota, Inc.



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Executive Summary

In response to Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) regional leadership tasking via the Academic Engagement Partnership (AEP) contract vehicle, Technical Direction 014, Metabiota, Inc. seeks to support the DTRA CBEP mission by conducting a technical writing training workshop in Kenya in order to advance Kenyan One Health research publication capacities. These proposed efforts will focus on the development and enhancement of all aspects of technical writing in addition to the journal identification, submission, and review processes for key members of the One Health research community in Kenya, thereby expanding Kenyan scientific research networks and collaboration opportunities while concurrently facilitating cooperative research and scientific engagement in the greater region in support of the DTRA CBEP mission.

Through this activity, Metabiota will engage with the Kenyan Zoonotic Disease Unit (ZDU), Global Implementation Solutions (GIS), and other key stakeholders from the Regional Conference on Zoonotic Diseases in Eastern Africa Conference as well as Subject Matter Experts (SMEs) in the areas of statistics, epidemiology, microbiology, diagnostics, and technical scientific writing in order to direct technical and programmatic support in the development and implementation of this technical writing training in order to expand Kenyan One Health research capacities and network.

This document outlines the approach that Metabiota will employ to accomplish this requirement. In short, Metabiota intends to:

1. Identify the current status and technical writing training needs in the One Health sector in Kenya, and the most effective engagement approach to enhancing those capabilities.
2. Facilitate the rollout of a technical writing workshop and mentorship program for key members of the One Health community in Kenya.
3. Support the expansion of Kenyan technical writing capabilities to meet international peer-review publication requirements and expectations thereby enhancing Kenyan scientific networks and research collaboration to reach the global scientific community.

Project Overview

Background

Especially dangerous pathogens are a challenge for both human and animal health and security infrastructures, and pose a significant threat to security and economic stability across the globe. To manage these threats, DTRA CBEP aims to reduce potential impacts of biological threats by enhancing biological safety and security (BS&S), awareness of biological risks, and knowledge related to biological pathogens globally.

To do so, DTRA CBEP works collaboratively with partner nations, other USG agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health; promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and

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secure facilities in a sustainable manner. In AFRICOM, specifically, DTRA CBEP seeks to increase regional collaboration on topics critical to biological threat reduction and enhance the regional capacity to perform biorisk management and mitigate the threat of infectious disease events.

To further this effort DTRA CBEP supported a Regional Conference on Zoonotic Diseases in Eastern Africa in March 2015. This activity's primary objective was to: encourage regional scientists to gather, process, analyze, present and publish their findings to further the understanding of zoonotic diseases and on-going work towards their prevention and control. In an effort to broaden the long-term impact of this activity and enhance Kenyan research scientist's capacity to conduct, collaborate, and disseminate research in the One Health sector at the international level. DTRA CBEP tasked Metabiota with conducting a follow-on workshop on technical writing for Kenyan research scientists who took part in this earlier workshop.

In support of this approach, Metabiota intends to provide administrative and technical support for the rollout of a One Health Zoonotic Disease Technical Writing Workshop. Metabiota will coordinate with POCs with the organizers and key stakeholders from the Regional Conference on Zoonotic Diseases in Eastern Africa in order to develop an understanding of Kenya's technical writing capacities and needs in the One Health sector. Metabiota will identify subject matter experts (SMEs) who possess expertise salient to their own in an effort to establish the optimal team needed to mentor, train, and shepherd up to twenty Kenyan participants through the publication drafting and submission process for submission to internationally recognized peer-reviewed journals in their respective fields. This technical writing workshop will increase international knowledge sharing and scientific collaboration on topics critical to biological threat reduction in the one health sector, and enhance the regional capacity to perform biorisk management and mitigate the threat of infectious disease events. Our team's on-the-ground experience and decades of expertise makes us well positioned to support the implementation of these and associated activities, as well as scientific engagement in Kenya and the greater region.

Goals and Objectives

This activity aims to provide DTRA CBEP partners in Kenya with support to enhance Kenyan One Health research scientist's capacity to conduct, collaborate, and disseminate research at the international level. The delivery of these requirements will cultivate continued knowledge enhancement throughout Kenya and expanded in country and regional capacity to conduct disease detection, surveillance, and control.

To achieve this purpose, Metabiota and their collaborative partners will:

- Identify the current status and technical writing training needs in the One Health sector in Kenya, and the most effective engagement approach to enhancing those capabilities;
- Facilitate the rollout of a technical writing workshop and mentorship program for key members of the One Health community in Kenya;
- Support the expansion of Kenyan technical writing capabilities to meet international peer-review publication requirements and expectations thereby enhancing Kenyan scientific networks and research collaboration to reach the global scientific community.

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Threat Reduction Impact

Through the implementation of Metabiota-facilitated technical writing workshop in Kenya and the activities leading up to and following the workshop, DTRA CBEP will have:

- Developed and enhanced technical research publication capacities in Kenya thereby expanding international scientific collaboration opportunities on topics of zoonotic disease detection, surveillance, and control;
- Disseminated scientific data related to zoonotic disease incidence and prevalence of pathogens of concern thereby increasing awareness and transparency;
- Supported collaborative awareness efforts in the region and foster collaborative scientific research by providing key capacities for the dissemination of knowledge to engaged members of the One Health community.

This activity will provide a measurable and achievable result in raising awareness of zoonotic disease research among DTRA CBEP AFRICOM partner countries and facilitating efforts in Kenya to enhance the capacities of researchers who play a pivotal role in the detection and control of zoonotic diseases in the region. Moreover, this activity will concurrently promote the development of a sustainable infrastructure for advancing scientific research in the One Health community.

Risk Management

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
				Cost		(b)(4); (b)(6)
Subject Matter Expert Subcontracting	Due to limited insight into participant profiles and research activities, additional costs and time-delays may occur to identify and coordinate the most appropriate SME coordination, which may impact the ability to conduct this activity in full.	3	3	Medium	As soon as Metabiota has a basic understanding of the participants' work, Metabiota will begin contacting possible SMEs, refining the list as better understanding develops. Metabiota will attempt to reach basic agreement with SMEs as soon as possible and issue authorization to proceed while subcontracts are being put into place.	
				Schedule		
Project Coordination	Kenya One Health Technical Writing Workshop involves a significant number of stakeholders and participants representing various organizations, putting implementation activities at risk of delay or cancellation.	5	2	Medium	Establish and hold regular calls with all stakeholders and identify multiple possible implementation dates. Identify critical components as early as possible and redirect efforts when it becomes clear that targeted implementation dates will not be achievable.	

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Performance						
Unknown skill levels of workshop participants	If the skill levels of writing of the various participants varies widely, this would impact the efficacy of the workshop, and potentially impact the ability to deliver a submission-quality manuscript in the time allotted.	4	4	(b)(4); (b)(6)	Work with Kenyan stakeholders and DTRA to identify appropriate participants and better understand the requirement for the quality of the final manuscripts.	(b)(4); (b)(6)
Political Instability	Sporadic violence in northeastern Kenya may lead to risks of being unable to safely complete in-country work.	2	5	Medium	Coordinate closely with DTRA and AFRICOM to be aware of any potential risks to performers, and target a location for the workshop well away from risky areas.	

Implementation Plan

Introduction

Metabiota will employ its existing organizational leadership to interface with the Regional Science Manager and Regional Program Manager, and Country Manager to direct the operational and administrative support required to ensure implementation of the Kenya One Health Zoonotic Technical Writing Workshop. Our Program Manager will oversee these activities, with the support of both CONUS and OCONUS Metabiota staff to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Communications Protocols

Metabiota will maintain open communications with international collaborators necessary for implementing the workshop, to include regional partners facilitating the workshop engagement and logistics. In addition, Metabiota will maintain routine communication with DTRA CBEP to ensure they have full visibility on the training engagement, status and process of execution.

Technical Approach

Phases of Technical Approach

Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project phases and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. The following phases are required for this project:

Phase 1: Programmatic Coordination and Training Landscape Review
Phase 2: Participant Identification and SME Mentor Pairing
Phase 3: Hypothesis Development and Article Framing
Phase 4: Writing Workshop Implementation

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Phase 5: Paper Finalization and Publication Submission
Phase 6: Post-submission Assistance and Summary Report Development

Our technical approach is predicated on the following assumptions gleaned from a short discussion with DTRA: 1) that the technical level of the participants will be of a wide range, but generally lower than that of accomplished US scientists, and 2) that the target end goal is to have fairly well-polished, submission-ready manuscripts by the end of Phase 5.

Phase 1 – Programmatic Coordination and Landscape Analysis (Aug. 24-Sep. 14, 2015)
Objective: Establish a communication and coordination plan with the Kenyan Zoonotic Disease Unit (ZDU), Global Implementation Solutions (GIS), and other stakeholders from the Regional Conference on Zoonotic Diseases in Eastern Africa Conference to initiate collaboration and conduct a landscape review of technical writing capacities and needs in the One Health sector in Kenya.

Process: Metabiota, in coordination with DTRA CBEP, will identify POCs with the organizers and key stakeholders from the Regional Conference on Zoonotic Diseases in Eastern Africa the took place in Naivasha, Kenya, March 2015. Through this collaboration, Metabiota will develop an understanding of Kenya's technical writing capacities and needs in the One Health sector. Based on stakeholder input, Metabiota will develop an analysis of the landscape of the writing capacities in Kenya and provide recommendations for participant criteria and training content.

Deliverables:

- Deliverable 1: Submission of key organizer and stakeholder POC list
- Deliverable 2: Submission of participant criteria and training content recommendations

Phase 2 –Participant Identification and SME Mentor Pairing (Sep. 15-Oct. 31, 2015)
Objective: Identify twenty individuals to participate in the Kenya Technical Writing Workshop and assign appropriate SME mentors (up to five) based upon participant areas of expertise and capacity development needs.

Process: Metabiota, in coordination with DTRA CBEP and key stakeholders, will identify up to twenty participants to take part in the Kenya Technical Writing Workshop based on the participant criteria established in Phase 1. Metabiota will work with participants to understand their research in order to further understand the specific level of assistance required and begin the process of identifying SME mentors for each participant. Metabiota will rely primarily on our own expertise to identify SME mentors based on the participant's capacity needs, areas of expertise, and anticipated publication content, but will solicit and consider recommendations from the stakeholder POCs and DTRA CBEP. Each SME mentor will supervise and collaborate with up to five participants. It is expected that some SME mentors (especially from academia) may each also identify one (1) Research and Data Analyst to assist with Phase 3 & Phase 5.

Deliverables:

- Deliverable 1: Submission of participant list and their assigned SME mentors

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Phase 3 – Hypothesis Development and Article Framing (Nov. 2, 2015-Jan. 29, 2016)
Objective: Participants will draft hypotheses for testing, via the scientific method, prior to their attendance at the Kenya Writing Workshop, and with the assistance of their assigned SME mentor. Participants will also develop an outline for their idea for a journal submission, to be based on this hypothesis and their supportive data.

Process: Metabiota, in coordination with DTRA CBEP, will request that selected participants furnish an idea for a proposed journal article, in the form of a hypothesis. This hypothesis would require testing, in the form of research and conclusion-building, and would need to be supported by pre-existing data. Participants will state how their data can be used to test their hypotheses, and that this data is authorized for use and accessible to them. SME mentors and, if needed, their RDAs will work closely with the participants to understand their research goals and the body of data collected. They will then assist participants in refining their analyses before, during, and after the Kenya Writing Workshop. Metabiota`s has observed a high level of variability in scientific capability in our wide experience with international scientific research, and believe that this stage may require a significant amount of labor to jointly work through the existing data and construct logical conclusions depending on the technical abilities of the respective participants. If time permits, participants should write a rough draft of their manuscript prior to the writing workshop. It should be noted that this phase spans several major holidays, including Thanksgiving, Christmas, and New Year`s Day.

Deliverables:

- Deliverable 1: Submission of participants` hypotheses and writing concepts and approach plan, along with statements of accessible, supporting data.

Phase 4 – Writing Workshop Implementation (Feb. 1-14, 2016)
Objective: Conduct a six day workshop on various aspects of technical writing in order to train and mentor up to twenty participants representing the Kenyan One Health research sector.

Process: Metabiota will coordinate with the SME mentors and participants to conduct the six-day training in Kenya. Lecture and working group sessions will cover topics including but not limited to scientific paper formatting, styling, and general requirements; the ethics of journal publication and authorship; the inclusion of background research and citing references, and understanding the impact factor and journal submission organizational techniques. Participants will take both pre- and post-training tests to measure the knowledge gained throughout the workshop. Each participant will have access to the coaches, and be able to work directly with the SMEs on their material. The timing of the workshop listed here is subject to change.

Deliverables:

- Deliverable 1: Submission of the Training Trip Report and After-Action Report detailing the overall training processes and lessons learned and the results of knowledge gained assessments.

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Phase 5 – Paper Finalization and Publication Submission (Feb. 15-Apr. 15)
Objective: Refine scientific manuscripts for submission to internationally recognized peer-reviewed journals.

Process: Metabiota and the SME and RDA mentors will maintain communication and provide programmatic and technical support to participants through the refinement and journal submission process. With the support provided to them, participants will identify the best-suited journals for submission based upon the impact and topics of their research, and other factors, and will submit the manuscript per the publication's specific requirements.

Deliverables:

- Deliverable 1: Submission of final manuscripts and journal identification
- Deliverable 2: Submission of progress reports of manuscript submission status and results

Phase 6 – Post-submission Assistance and Summary Report Development (April 15-May 15, 2015)
Objective: Provide technical and program management support during the post-submission stages and in the response to journal comments and publication refinement process.

Process: Journal articles are rarely, if ever, accepted upon initial submission. Following peer-review and pending journal interest, authors are often requested to address questions, revise narrative, and potentially perform additional experiments or conduct additional data analyses. To ensure support through potential publication, the Metabiota team will work jointly with the SME mentors and participants to provide technical and programmatic support during the post-submission phase, to include assisting in the response to journal reviewer questions and comments as well as the process of refining data analyses, data presentation, or the text of the manuscript. Once complete, Metabiota will develop a final report detailing the overall processes and lessons learned, and submission results of all publications.

Deliverables:

- Deliverable 1: Final report detailing overall processes and lessons learned as well as submission acceptance results for publishing participant's research articles in internationally recognized peer-reviewed journals.

Management Approach

Project Team Structure

Metabiota's project team will include the AEP program leadership, the Program Manager, Project Coordinator, Travel Coordinator and a team of Subject Matter Experts and Research and Data Analysts that will be tasked with specific assignments to support the development and implementation of this activity based on their administrative and scientific expertise. This team of experts will ensure the overall project management and tasks associated with the training are

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met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.

Initiation

Metabiota initiated planning for this activity upon receipt of TD-014. Metabiota sought and will continue to seek additional clarifications and complete understanding of the requirements from DTRA CBEP and other stakeholders. However, this proposal represents a formalization of the work required to develop a plan capable of answering the requirement as tasked to us by DTRA CBEP given our current understanding. Following authorization to proceed by DTRA CBEP, Metabiota will move into the execution of the planned activities, and will adjust the operating plan accordingly to account for new information.

Execution

The core project management team will maintain oversight and implementation of the project at all times and will ensure rapid execution of all phases, tracking objectives to ensure the project stays on schedule and within budget to complete this activity. The project will be managed according to the phased implementation plan and will be course corrected, as needed to ensure target end-goals are reached. The following tools will be used to guarantee the project schedule will be maintained:

Project Administration:

1. Weekly team meetings and conference calls will be held to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Coordinator and will include the Program Manager, Training Coordinator, and AEP leadership, as needed based on the requirements and stage of implementation.
2. Routine calls and communication via email will be held with DTRA CBEP regional leadership and Metabiota to provide routine status updates and ensure training implementation.

Project Reporting:

1. Weekly status reports will be provided by the Program Manager to senior Metabiota leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction, as needed to ensure training goals are met.

Monitoring and Controlling

1. Routine risk assessment will be performed internally among the Metabiota project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with DTRA CBEP regional leadership to ensure the project remains on track and is implemented according to standard.
3. Routine oversight and coordination will be performed to ensure subcontractors perform all necessary requirements to ensure successful execution of the training. Monitoring will include both administrative and fiscal oversight.

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Timeline

Phase	Q3 2015			Q4 2015			Q1 2016			Q1 2016		
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	
Phase 1: Programmatic Coordination and Landscape Analysis												
Phase 2: Participant Identification and SME Mentor Pairing												
Phase 3: Hypothesis Development and Article Framing												
Phase 4: Writing Workshop Implementation												
Phase 5: Paper Finalization and Publication Submission												
Phase 6: Post-submission Assistance and Summary Report Development												

Completion

Metabiota will drive the project to completion in a timely manner by maintaining a focused project schedule with routine meetings and communication with DTRA CBEP regional leadership. This will allow for continued coordination, while maintaining targeted objectives. As the activity progresses, Metabiota will provide all required deliverables and after action reports to allow for lessons learned and continuation of solid execution and implementation of activities. Metabiota believes that the experience and management it will bring to this project, in collaboration with DTRA CBEP will guarantee success.

Cost Management

The Metabiota team and all partners will maintain an acute focus on cost management to ensure that this activity is delivered at a reasonable cost to the government. Our team will provide full oversight of any potential subcontractors or independent consultants to ensure accurate and responsive financial reporting and will facilitate cost savings wherever possible. Metabiota will

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follow procurement regulations ensuring the best value is obtained under the time constraints using all means available.

Budget Narrative
The Metabiota AEP contract vehicle has been changed to a Time & Materials (T&M) contract in the option year (16 May 2015 – 15 May 2016). Under a T&M mechanism, this proposal is not a contractually binding document. Rather, it represents Metabiota's best faith effort to determine the level of effort required to execute the requirements outlined in both the letter of technical direction and subsequent communications with DTRA stakeholders. Should the effort require additional labor beyond that proposed, DTRA Contracting and the Contracting Officer's Representative (COR) would be notified to seek additional funding; **should the effort require less labor than proposed, DTRA would not be billed for the proposed labor left unfulfilled**. For the purpose of budget tracking, Metabiota will be reporting updates to the project and burn rate by CLIN in CDRL A001 (Monthly Progress Report).

Period of Performance

The Period of Performance for this effort is July 21, 2015 to May 15, 2016.

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As some of our Subject Matter Experts and Research and Data Analysts may be independent consultants or subcontractors, the Metabiota PM will additionally oversee and ensure that all project personnel adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PM will provide management oversight of the project team, including subcontractors and independent consultants throughout the span of the project.

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The Metabiota PM will oversee the coordination between the Kenyan stakeholders and the workshop planning team, and will ensure the project team captures and keeps in account stakeholder input regarding key information relevant to the planning of the workshop. The PM will travel to Kenya to ensure the execution of the workshop proceeds smoothly and to provide oversight over all subcontractors and independent consultants. Lastly, the PM will provide oversight to ensure all required project closeout activities occur in a timely fashion.

Metabiota Subject Matter Expert I: The Metabiota SME I will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM and will manage the project team, including all subcontractors, to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline.

The PC will lead coordination with the Kenyan stakeholders to identify workshop participants and in the coordination of SME selection and pairing with the most appropriate workshop participants. The PC will establish and maintain regular communication between the SMEs and the participants prior to and following the workshop. The PC will drive the coordination required to sufficiently gather the answers to the logistical questions that will arise in the planning and execution of the in-country workshop. The PC will travel to Kenya to ensure the execution of the workshop proceeds smoothly.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As these SMEs also are likely unfamiliar with DoD contracting, the Metabiota PC will assist the SMEs, RDAs, and/or their organizations with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Phases 1 – 2:
As indicated above, the PM and PC will serve in all phases. Specifically relevant to phases 1 – 2, both the PM and PC also have advanced degrees and will assist the Metabiota SME III in the ground truthing of the participants' data and draft manuscripts (if available).

Metabiota Subject Matter Expert III: The Metabiota SME III will participate in the ground truthing of participants by leading the team (along with the PM and PC) that develops an understanding of the research that has been done by each of the participants. This will inform the team's work in the matching of relevant SMEs for each workshop participant. The SME III

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will leverage their knowledge of the field and network of contacts to propose a potential list of SMEs for matching with participants for phases 3 – 6.

Phases 3 – 6:
Subject Matter Experts II and III (5 total): We expect to secure a mix of SME II and SME III personnel from both within Metabiota and the academic community. All SMEs will be fully qualified scientific experts with experience publishing in peer-reviewed journals; the differential between levels exists to allow for pay banding based on home locations and existing salaries. We propose in our budget 2 SME IIs and 3 SME IIIs but this mix is subject to change. These SMEs will travel to Kenya to implement the writing workshop.

The SMEs II and III will each be assigned to work with 4 participants during phases 3 – 6. These SMEs will be required to coordinate closely with their assigned participants to work on developing their manuscripts. This will require fully understanding the research that has been done, including a significant dive into the data collection and analysis that may have already been done to ensure that the work meets the standards required for publication in peer-reviewed journals. Prior to the workshop, SMEs will guide participants in the proper framing of hypotheses and the narrative structure of scientific research papers. If necessary, SMEs will assist participants in applying modern data analysis techniques. During the workshop, SMEs will provide a mix of lectures discussing topics relevant to the authoring, editing, and publishing of scientific research, small group work reflecting those lectures, and one-on-one time with each of their assigned participants. Following the workshop, SMEs will provide follow-on mentoring to participants as they incorporate the lessons learned into the final drafts of their manuscripts. Where applicable, SMEs may provide some assistance with the actual process of submitting manuscripts to journals and responding to referee feedback.

Research and Data Analysts (5 total): Depending on the level of effort that is determined to be required in assisting the participants with additional data analysis and help in drafting and polishing manuscripts, RDAs may also be leveraged. Prior to the workshop, we envision one RDA at the post-doctoral level per primary SME (*i.e.*, 1 RDA per 4 participants). RDAs will work alongside the SME to understand the research that has been done by each participant. RDAs will be enlisted to do the work closely with participants to re-analyze data using the best available statistical techniques under the guidance of the primary SME. Additionally, RDAs will be available after the workshop to assist participants with the finalizing and submitting their manuscripts. RDAs will not travel to nor participate in the workshop.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials
We have budgeted for the possibility that we may need to provide access to scientific journal articles to the workshop participants while they are working on their manuscripts. Our estimate provides up to 20 articles per participant at an estimated access price of $35 per article. However, it may be possible to provide some level of access to the participants at a lower cost

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via pairing with an academic mentor during Phases 3 – 5, and if we are able to facilitate this, the budget for journal access may only be partially utilized.

We have also budgeted for a small quantity of office supplies to accommodate the printing of agendas, training materials, or workshop materials needed to successfully execute and support in-country project activities.

Lastly, we have budgeted for international communications ability for our project team while they are in country implementing the workshop. The costs budgeted here reflect activating a moderate international calling and data plan for each traveler's cell phone, but the Metabiota team is continuously investigating methods for securing this capability at lower cost.

Other Direct Costs
Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts
Subcontracts will be issued to SMEs, RDAs, and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support the program manager, project coordinator, and the 5 subject matter experts to Nairobi, Kenya to implement the writing workshop. The travel budget represents the estimated amount required; travel on the AEP contract is cost reimbursable.

Our travel budget assumes the workshop will be held on 6 consecutive days, with an additional day budgeted for set-up and coordination activities. If, through discussion with the Kenyan stakeholders, an alternative schedule is created or an alterative location is desired, travel costs may be impacted accordingly.

Conclusion
Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP's mission in Kenya in the implementation of Kenya One Health Technical Writing Training. Metabiota will ensure, through strong project management and risk mitigation, that the training will be executed in an efficient and timely manner delivering a top quality program geared to support enhanced biosurveillance and biosafety efforts in the region.

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Appendix A - Team Metabiota Overview

Metabiota is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science, including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in 20 countries and offices in San Francisco, Washington, China, Canada, and Sierra Leone.

Metabiota currently supports a number of Defense Threat Reduction Agency's Cooperative Biological Engagement Program (DTRA CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. Metabiota's mission aligns well with DTRA CBEP and the entire Metabiota team is focused on supporting our USG Partners in reducing the risk of biological threats worldwide, and employs a collaborative and agile approach to biological risk reduction.

To ensure a successful event, Metabiota, in coordination with DTRA CBEP regional leadership and in country partners have built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGO) whose respective aims could impact DTRA CBEP objectives.

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TD 008 Clinician Training in Uganda

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: June 10, 2015
PERIOD OF PERFORMANCE: May 16 2015- August 30 2015
PROJECT: Clinician Training

	Hours		Amount
oaded based on MOD 18			
nager	740	$	(b)(4); (b)(6)
(b)(4); (b)(6)	1,776	$	
	592	$	
	1,776	$	
	444	$	
	296	$	
Total Labor Costs (fully loaded):	**5,624**		
OTHER DIRECT COSTS *(fully loaded)*:			
CLIN 1003 Materials		$	88,868.93
CLIN 1004 ODCs		$	16,386.01
CLIN 1005 Travel		$	89,465.00
Total Other Direct Costs (fully loaded):			(b)(4); (b)(6)
Total: Estimated			

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10-Jun-15
Project Clinician Training
Period of Performance: May 16 2015- August 30 2015

CLIN No.	Labor Description	Cost	Total Hours	Total Billable Amount $
CLIN 1002	[redacted]	(b)(4); (b)(6)	740	(b)(4); (b)(6)
CLIN 1002			1,776	
CLIN 1002			592	
CLIN 1002			1,776	
CLIN 1002			444	
CLIN 1002			296	

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10-Jun-15
Project Clinician Training
Period of Performance: May 16 2015- August 30 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	Communciation	2,000.00	4	$ 8,000.00
1003	Printing	1,860.00	1	$ 1,860.00
1003	Pulse Oximeters - hospital grade, replaceable probes	267.50	20	$ 5,350.00
1003	Pulse oximeters- individual clinician use	42.80	60	$ 2,568.00
1003	Pilot Tablets	192.60	20	$ 3,852.00
1003	Tethering for Tablets	107.00	20	$ 2,140.00
1003	Training Event Logistics(May-July)	11,500.00	5	$ 57,500.00
1003	Shipping (in Uganda)	3,150.00	1	$ 3,150.00
			Sub-Total	$ 84,420.00

(b)(4); (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10-Jul-15
Project Clinician Training
Period of Performance: May 16 2015 August 30 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance	$ 12,548.61	1	12,549
1004				-
1004				-
1004				-
1004				-
			Sub-Total	12,549

(b)(4); (b)(6)

TRAVEL ESTIMATE COST

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10 Jun 15
Proposal: Clinician Training
Period of Performance: May 16 2015 - August 30 2015

	International	
Traveler:	TBD	
Departure Location:	Washington, DC	
Destination:	Uganda	
Purpose:	OHE	
Airfare	$	2,500.00
Lodging	$	1,500.00
Meals / Incidentals	$	450.00
Meals / Incidentals (First and Last Travel Days)	$	135.00
Ground Transport	$	1,050.00
Anti Maleria	$	210.00
Incidentals (Visa)	$	150.00
Vaccinations	$	250.00
# of Days		7
Total Per Trip		**$6,245**
No. of Trips		3
No. of persons		2
SUBTOTAL:		**$37,470**
TOTAL TRAVEL BUDGET:		**$37,470**

	International	
Traveler:	TBD	
Departure Location	San Francisco	
Destination:	Uganda	
Purpose	OHE	
Airfare	$	3,154.00
Lodging	$	3,250.00
Meals / Incidentals	$	1,980.00
Meals / Incidentals (First and Last Travel Days)	$	135.00
Ground Transport	$	2,100.00
Anti Maleria	$	280.00
Incidentals (Visa)	$	150.00
Vaccinations	$	250.00
# of Days		11
Total Per Trip		**$10,399**
No. of Trips		5
No. of persons		1
SUBTOTAL:		**$51,995**
TOTAL TRAVEL BUDGET:		**$51,995**

GRAND TOTAL
$89,465

USG Foreign Per Diem Rates			
Location	**Maximum Lodging**	**M&IE**	**Total**
Uganda	250	90	340

WORKABLE HOURS

LABOR				HOURS					COST				
NAME	TYPE	CATEGORY	DESCRIPTION	15-31 May	June	July	Aug	TOTAL	BILLABLE RATE	ACTUAL RATE	TOTAL BUDGET	EST ACTUALS AT BILLABLE RATE	VARIANCE
Project Management													
PM	FT	Project Manager	Project Management	40	168	168	37	413	$ 139.94			$ 57,797.62	
SME	FT	Subject Matter Expert	Training Implementation	0	84	84	42	210	$ 76.92			$ 16,153.20	
Training Material Development, Adaptation, and Implementation												$ -	
SME	S	Subject Matter Expert	Subject Matter Expert	120	168	168	126	582	$ 252.92			$ 147,253.44	
PM	S	Project Manager	Project Manager	40	168	168	126	502	$ 139.94			$ 67,452.68	
SME 4	S	SME 4	Training	210	168	168	126	672	$ 252.92			$ 169,956.48	
SME 3	S	SME 3	Training	0	168	168	126	462	$ 179.63			$ 82,992.03	
SME 2	S	SME 2	Training	210	168	168	126	672	$ 179.63			$ 120,722.88	
SME 1	S	SME 1	Training	210	168	168	126	672	$ 179.63			$ 120,722.88	
Post Training Evaluations and Reporting												$ -	
PM	FT	Project Manager	Project Management	40	168	168	37	413	$ 139.94			$ 57,797.62	
SME	FT	Subject Matter Expert	Data Analysis and Report	0	84	84	42	210	$ 76.92			$ 16,153.20	
												$ -	

1,012,456.15

PM	730.00	$ 139.94	$ 102,156.20
SME	336.00	$ 76.92	$ 25,846.56
S	1,554.00	$ 252.92	$ 392,999.68
	1,778.00	$ 179.63	$ 319,350.14
	630.00	$ 179.63	$ 113,166.90
	1,778.00	$ 126.49	$ 224,939.68
	7,026.00		$ 1,178,459.16

TD 008 Clinician Training in Uganda

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: June 10, 2015
PERIOD OF PERFORMANCE: May 16 2015- August 30 2015
PROJECT: Clinician Training

		Hours		Amount
oaded based on MOD 18				
nager		740	$	(b)(4); (b)(6)
(b)(4); (b)(6)		1,776	$	
		592	$	
		1,776	$	
		444	$	
		296	$	
Total Labor Costs (fully loaded):		**5,624**		
OTHER DIRECT COSTS *(fully loaded)*:				
	CLIN 1003 Materials		$	88,868.93
	CLIN 1004 ODCs		$	16,386.01
	CLIN 1005 Travel		$	35,010.00

(b)(4); (b)(6)

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10-Jun-15
Project Clinician Training
Period of Performance: May 16 2015- August 30 2015

CLIN No.	Labor Description	Cost	Total Hours	Total Billable Amount $
CLIN 1002	[redacted]	[redacted]	740	[redacted]
CLIN 1002			1,776	
CLIN 1002			592	
CLIN 1002			1,776	
CLIN 1002			444	
CLIN 1002			296	

(b)(4); (b)(6)

(b)(4); (b)(6)

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10-Jun-15
Project Clinician Training
Period of Performance: May 16 2015- August 30 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	Communciation	2,000.00	4	$ 8,000.00
1003	Printing	1,860.00	1	$ 1,860.00
1003	Pulse Oximeters - hospital grade, replaceable probes	267.50	20	$ 5,350.00
1003	Pulse oximeters- individual clinician use	42.80	60	$ 2,568.00
1003	Pilot Tablets	192.60	20	$ 3,852.00
1003	Tethering for Tablets	107.00	20	$ 2,140.00
1003	Training Event Logistics(May-July)	11,500.00	5	$ 57,500.00
1003	Shipping (in Uganda)	3,150.00	1	$ 3,150.00
			Sub-Total	$ 84,420.00

(b)(4); (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10-Jul-15
Project Clinician Training
Period of Performance: May 16 2015 August 30 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance	$ 12,548.61	1	12,549
1004				-
1004				-
1004				-
1004				-
			Sub-Total	12,549

(b)(4); (b)(6)

TRAVEL ESTIMATE COST

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10 Jun 15
Proposal: Clinician Training
Period of Performance: May 16 2015 - August 30 2015

	International
Traveler:	TBD
Departure Location:	Washington, DC
Destination:	Uganda
Purpose:	Clinician
Airfare	$ 2,350.00
Lodging	$ 814.00
Meals / Incidentals	$ 665.00
Average Ground Transport per person/per trip	$ 1,450.00
Anti Malarial	$ 210.00
Incidentals (Visa)	$ 150.00
Vaccinations	$ 250.00
Total Per Trip	**$5,889**
No. of trips	2
No. of persons	2
SUBTOTAL:	**$23,556**
TOTAL TRAVEL BUDGET:	**$23,556**

	International
Traveler:	TBD
Departure Location	San Francisco Other US
Destination:	Uganda
Purpose	Clinician
Airfare	$ 2,375.00
Lodging	$ 911.00
Meals / Incidentals	$ 665.00
Average Ground Transport per person/per trip	$ 1,065.00
Anti Malarial	$ 210.00
Incidentals (Visa)	$ 150.00
Vaccinations	$ 250.00
Total Per Trip	**$5,727**
No. of trips	2
No. of persons	1
SUBTOTAL:	**$11,454**
TOTAL TRAVEL BUDGET:	**$11,454**

GRAND TOTAL
$35,010

Maxiumum USG Foreign Per Diem Rates for Uganda			
Location	**Maximum Lodging**	**M&IE**	**Total**
Entebbe	**144**	***58***	**202**
Kampala	**250**	***90***	**340**
Gulu	**62**	***48***	**110**
Jinja	**215**	***74***	**289**
Other (i.e. Wakiso)	**62**	***48***	**110**
Kabarole / Fort Portal	**113**	***63***	**176**

WORKABLE HOURS

LABOR				HOURS					COST				
NAME	TYPE	CATEGORY	DESCRIPTION	15-31 May	Jun	July	Aug	TOTAL	BILLABLE RATE	ACTUAL RATE	TOTAL BUDGET	EST ACTUALS AT BILLABLE RATE	VARIANCE
Project Management													
PM	FT	Project Manager	Project Manager	44	88	88	88	308	$ 129.94	$ -	$ -	$ 40,020.52	
BA	FT	Business Analyst	Training Requirements Analysis	42	84	84	84	294	$ 76.82	$ -	$ -	$ 22,581.08	
Training Material Development, Adaptation, and Implementation												$ -	
SME	S	Specific Matter	Specific Matter	132	264	264	264	924	$ 252.92	$ -	$ -	$ 233,753.48	
PM	S	Project Manager	Project Manager	44	88	88	88	308	$ 129.94	$ -	$ -	$ 40,020.52	
SME 4	S	SME 3	Training	264	528	528	528	1848	$ 252.92	$ -	$ -	$ 467,506.40	
SME 2	S	SME 2	Training	264	528	528	528	1848	$ 129.63	$ -	$ -	$ 239,502.24	
SME 1	S	SME 1	Training	264	528	528	528	1848	$ 129.63	$ -	$ -	$ 239,502.24	
Post Training Evaluations and Reporting												$ -	
PM	FT	Project Manager	Project Manager	44	88	88	88	308	$ 129.94			$ 40,020.52	
BA	FT	Business Analyst	Data Analysis Support	42	84	84	84	294	$ 76.82			$ 22,581.08	
												$ -	

BDA	Jo	Ali	Ma	Ka	256
PM	Ali	Ali	Ali	Ali	

1000.48
1230.46
13,538.80
1000.48
24,626
12,366.92
4,619.89
1230.46
1000.48

1,012,496.15

Summary			
	2080.00	$ 129.94	$ 270,275.20
	296.00	$ 76.82	$ 22,740.16
	444.00	$ 252.92	$ 112,293.60
	2,820.00	$ 252.92	$ 713,204.40
	1,848.00	$ 129.63	$ 239,502.24
	1776.00	$ 129.63	$ 230,249.28

TD 008 Clinician Training in Uganda Phase 2

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: June 10, 2015
PERIOD OF PERFORMANCE: September 01 2015 - February 28 2016.
PROJECT: Clinician Training

oaded based on MOD 18

	Hours		Amount
(b)(4); (b)(6)	1,149	$	(b)(4); (b)(6)
	2,326	$	
	784	$	
	2,318	$	
	654	$	
	486	$	
Total Labor Costs (fully loaded):	**7,717**		
OTHER DIRECT COSTS *(fully loaded)*:			
CLIN 1003 Materials		$	40,850.02
CLIN 1004 ODCs		$	21,645.00
CLIN 1005 Travel		$	122,752.65

(b)(4); (b)(6)

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10-Jun-15
Project Clinician Training
Period of Performance: September 01 2015 - February 28 2016.

CLIN No.	Labor Description	Cost	Total Hours	Total Billable Amount $
CLIN 1002	(b)(4); (b)(6)	(b)(4); (b)(6)	1,149	(b)(4); (b)(6)
CLIN 1002			2,326	
CLIN 1002			784	
CLIN 1002			2,318	
CLIN 1002			654	
CLIN 1002			486	
			7,717	

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10-Jun-15
Project Clinician Training
Period of Performance: September 01 2015 - February 28 2016.

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	Communciations	2,000.00	6	$ 12,000.00
1003	Printing	2,790.00	1	$ 2,790.00
1003	Pulse Oximeters - hospital grade, replaceable probes	267.50	30	$ 8,025.00
1003	Pulse oximeters- individual clinician use	42.80	90	$ 3,852.00
1003	Pilot Tablets	192.60	30	$ 5,778.00
1003	Tethering for Tablets	107.00	30	$ 3,210.00
1003	Shipping	3,150.00	1	$ 3,150.00
			Sub-Total	$ 38,805.00

(b)(4) (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10-Jun-15
Project Clinician Training
Period of Performance: September 01 2015 - February 28 2016.

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA	$ 16,576.04	1	16,576
1004				-
1004				-
1004				-
1004				-
			Sub-Total	16,576

(b)(4);(b)(6)

TRAVEL ESTIMATE COST

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10 Jun 15
Proposal: Clinician Training
Period of Performance: September 01 2015 February 28 2016

	International		International
Traveler:	TBD	Traveler:	TBD
Departure Location:	Washington, DC	Departure Location	San Francisco
Destination:	Uganda	Destination:	Uganda
Purpose:	OHE	Purpose	OHE
Airfare	$ 2,500.00	Airfare	$ 3,153.95
Lodging	$ 1,500.00	Lodging	$ 3,250.00
Meals / Incidentals	$ 450.00	Meals / Incidentals	$ 1,980.00
Meals / Incidentals (First and Last Travel Days)	$ 135.00	Meals / Incidentals (First and Last Travel Days)	$ 135.00
Ground Transport	$ 1,050.00	Ground Transport	$ 2,100.00
Anti Maleria	$ 210.00	Anti Maleria	$ 280.00
Incidentals (Visa)	$ 150.00	Incidentals (Visa)	$ 150.00
Vaccinations	$ 250.00	Vaccinations	$ 250.00
# of Days	7	# of Days	11
Total Per Trip	**$ 6,245.00**	Total Per Trip	**$ 10,398.95**
No. of Trips	4	No. of Trips	7
No. of persons	2	No. of persons	1
SUBTOTAL:	**$49,960**	**SUBTOTAL:**	**$72,792.65**
TOTAL TRAVEL BUDGET:	**$49,960**	**TOTAL TRAVEL BUDGET:**	**$72,793**

GRAND TOTAL
$122,753

USG Foreign Per Diem Rates			
Location	**Maximum Lodging**	**M&IE**	**Total**
Uganda	250	90	340

WORKABLE HOURS

LABOR												COST				
NAME	TYPE	CATEGORY	DESCRIPTION	Sep	Oct	Nov	Dec	Jan	Feb	TOTAL	BILLABLE RATE	ACTUAL RATE	TOTAL BUDGET	EST ACTUALS AT BILLABLE RATE	VARIANCE
PM	F	(b)(4); (b)(6)									(b)(4); (b)(6)				
RA	F														
Training Material Development, Ad															
SME	S														
PM	S														
SME 3	S														
SME 2	S														
SME 1	S														
Post Training Evaluations and Repo															
PM	F														
RA	F														

(b)(4); (b)(6)

OPTION YEAR - SOW Section 4.3, Task 3 Personal Protective Equipment (PPE) Donning

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: June 15, 2015
PERIOD OF PERFORMANCE: May 16, 2015 - November 30, 2015
PROJECT: PPE/VHF Training - Yaounde, Cameroon

	oaded based on rate card).	**LOE Hours**		**Amount**
	(b)(4); (b)(6)	101	$	(b)(4); (b)(6)
CLIN 1002		82	$	
CLIN 1002		152	$	
CLIN 1002		298	$	
CLIN 1002		24	$	
	Total Labor Costs (fully loaded):	**657**		
	OTHER DIRECT COSTS *(fully loaded).*			
	CLIN 1003 Materials		$	-
	CLIN 1004 ODCs		$	3,080.98
	CLIN 1005 Travel		$	12,846.18

(b)(4); (b)(6)

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 15-Jun-15
Project PPE/VHF Training - Yaounde, Cameroon
Period of Performance: May 16, 2015 - November 30, 2015

CLIN No.	Labor Description	Cost	Total Hours	Total Billable Amount $
CLIN 1002	(b)(4); (b)(6)	(b)(4); (b)(6)	101	(b)(4); (b)(6)
CLIN 1002			82	
CLIN 1002			152	
CLIN 1002			298	
CLIN 1002			24	

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 15-Jun-15
Project IPPE/VHF Training - Yaounde, Cameroon
Period of Performance: May 16, 2015 - November 30, 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
				-
				-
		Sub-Total		-
			(b)(4); (b)(6)	-
				-

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 15-Jun-15
Project IPPE/VHF Training - Yaounde, Cameroon
Period of Performance: May 16, 2015 - November 30, 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1004	DBA Insurance	$ 2,359.46	1	2,359
		Sub-Total		2,359

(b)(4);(b)(6)

TRAVEL ESTIMATE COST

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 15 Jun 15
Proposal: PPE/VHF Training Yaounde, Cameroon
Period of Performance: May 16, 2015 - November 30, 2015

	International	International	Local
Traveler:	Scientific	Trainer	Trainer
Departure Location:	Washington, DC	Paris, France	Freetown, Sierra Leone
Destination:	Yaounde, Cameroon	Yaounde, Cameroon	Yaounde, Cameroon
Purpose:	Attend the PPE/VHF Training Course	Attend the PPE VHF Training Course	Attend the PPE VHF Training Course
Airfare	$2,100	$1,300	$2,600
Lodging	816	816	816
Meals / Incidentals	636	530	636
Meals / Incidentals (First and Last Travel Days)	159	159	159
Ground Transport	$480	$197	$212
Incidentals (Visa)	358	250	423
# of Days	8	7	8
Total Per Trip	$4,749	$3,252	$4,846
No. of Trips	1	1	1
No. of persons	1	1	1
SUBTOTAL:	$4,749	$3,251.67	$4,845.52
TOTAL TRAVEL BUDGET:	**$4,749**	**$3,252**	**$4,846**

GRAND TOTAL
$12,846

USG Foreign Per Diem Rates			
Location	**Maximum Lodging**	**M&IE**	**Total**
Yaounde, Cameroon	136	106	242

TD-0001 AEP Cameroon VHF & PPE Donning Doffing Training				
LABOR			HOURS	
TYPE	CATEGORY	DESCRIPTION	Total	Travel
Metabiota Project Management				
Metabiota	Program Manager	Program Manager - Oversee and execute the training to include management of deliverables, logistics, procurement tracking of project requirements, and implementation	101	No
Metabiota	Trainer III	Training Manager - Manage all training related deliverable - Training Event Plans, Cable Clearance Requests, CLS Forms, Training Trip Reports. Provide consistency across all DTRA CBEP trainings.	24	No
Metabiota	Trainer II	Training Coordinator - Assist in coordinating the training, to include assisting in management of deliverables, logistics, procurement, tracking of project requirements, deliverables and logistics	152	No
Training Material Adaptation & Translation				
Metabiota	Scientific Mentor	Scientific Mentor - Lead development and adaptation of all VHF and PPE related training materials. Additionally, will serve as the lead for developing an appropriate agenda to ensure effective dissemination of training materials	40	No
Mosaic	Trainer II	PPT Development - Ensure training materials are technically sound and relevant from cultural and sustainability standpoints. Provide input to training agenda and schedule to ensure effective dissemination of materials. Bilingual trainer - French and English, and an expert in VHF/PPE management. Serve as the final reviewer of translated adapted materials after translation by DTRA CLS contractor to ensure no technical information is lost	20	Currently lives in Yaounde, Cameroon
Training Implementation				
Metabiota	Scientific Mentor	Scientific Mentor - Serve as lead trainer, provide oversight and expertise to effectively implement the training event in Yaounde, Cameroon. Bilingual trainer - French and English, and an expert in VHF/PPE management. Leveraging a training team of four, will ensure a 6:1 trainee to trainer ratio, which will be critical when providing oversight for PPE donning and doffing	42	Will travel to Yaounde to implement training event (October 2015)
Mosaic	Trainer II	Training - Serve as a supporting trainer to implement the training event in Yaounde, Cameroon. Bilingual trainer - French and English, and an expert in VHF/PPE management. Leveraging a training team of four, will ensure a 6:1 trainee to trainer ratio, which will be critical when providing oversight for PPE donning and doffing.	42	Local
Metabiota	Trainer I	Training - Serve as a supporting trainer to implement the training event in Yaounde, Cameroon. Bilingual trainer - French and English, and an expert in VHF/PPE management. Leveraging a training team of four, will ensure a 6:1 trainee to trainer ratio, which will be critical when providing oversight for PPE donning and doffing	42	Will travel to Yaounde to implement training event (October 2015)
Metabiota	Trainer I	Training - Serve as a supporting trainer to implement the training event in Yaounde, Cameroon. Bilingual trainer - French and English, and an expert in VHF/PPE management. Leveraging a training team of four, will ensure a 6:1 trainee to trainer ratio, which will be critical when providing oversight for PPE donning and doffing.	42	Will travel to Yaounde to implement training event (October 2015)
CAM Facilitation				
Global Viral	Trainer II	GV Management and Training Coordination - CONUS based program manager for Global Viral - Will provide logistical and operational support for interacting with all Cameroonian stakeholders, including on-the-ground GV personnel	40	No
Mosaic	Trainer II	Training Coordination - Provide on the ground support on an as needed basis, including during the information gathering phase with Ministry of Defense as well as aid in coordinating and executing the training event (October 2015)	44	Currently lives in Yaounde, Cameroon
Global Viral	Trainer I	Training Coordination - Provide on the ground support on an as needed basis, including organizing the meeting with Ministry of Defense during the information gathering phase, as well as aid in coordinating and executing the training event (October 2015).	68	Currently lives in Yaounde, Cameroon

Metabiota's Technical and Cost Proposal

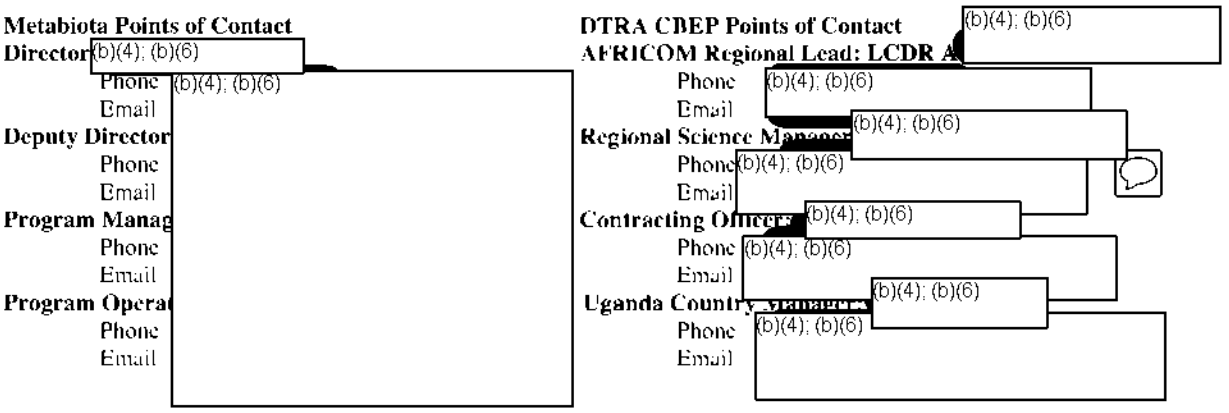
"DTRA/CBEP One Health Epidemiology Training in Uganda"

Technical Direction Number: TD-013
Contract Number: HDTRA1-14-C-0104
CAGE Code: 56SP4
DUNS number: 828131156

Small US Business
Metabiota, Inc.



One Sutter Street, Suite 600 San Francisco, CA 94104



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Executive Summary

In response to Defense Threat Reduction Agency Cooperative Biological Engagement Program (DTRA CBEP) regional leadership tasking via the Academic Engagement Partnership (AEP) contract vehicle, Technical Direction 013, Metabiota, Inc. (Metabiota) seeks to support the DTRA CBEP mission to increase One Health Epidemiology (OHE) capacity in Uganda by facilitating OHE training events. This initiative will enhance local outbreak preparedness and response capabilities of public health professionals operating in Uganda to mitigate the threat of human, veterinary, and economic loss associated with the spread especially dangerous pathogens (EDP) and associated diseases.

These proposed efforts will enhance local Ugandan capacity at the District level to conduct disease prevention, detection, surveillance and response activities. Moreover, this activity will concurrently facilitate cooperative scientific engagement amongst key stakeholders for disease detection and control in Uganda, in support of the DTRA CBEP mission.

This document outlines the approach that Metabiota will employ to accomplish the requirement. In short, Metabiota intends to:

- Facilitate the conduction of Module 1 OHE training for stakeholder-identified Cohorts 9 & 10 thereby enhancing District-level knowledge of basic epidemiology best practices;
- Facilitate the conduction of Module 2 OHE training for stakeholder-identified Cohorts 9 & 10 thereby enhancing District-level knowledge of outbreak investigations for EDPs;
- Enhance local scientific capacities by fostering collaborations and communications between participants of unique Districts in Uganda.

Project Overview

Background

In recent decades, we have experienced a dramatic increase in the rate of emergence and re-emergence of infectious diseases. On average, one new virus emerges every 19 months, most often with origins in animal populations. The threat of emerging pathogens affecting humans worldwide continues to increase; and underscores the need for effective, integrated human and animal disease surveillance, reporting, diagnostics and response capabilities.

To manage these risks, DTRA CBEP aims to reduce potential impacts of biological threats by enhancing biological safety and security (BS&S), awareness of biological risks, and knowledge related to biological pathogens globally. To do so, DTRA CBEP works collaboratively with partner nations, other USG agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health; promote safe and secure laboratory and field work environments; and consolidate pathogens of

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security concern into a minimal number of safe and secure facilities in a sustainable manner. In AFRICOM, specifically, DTRA CBEP seeks to enhance OHE capabilities and develop and maintain local and regional capacity in order to sustainably manage the threat of infectious disease events.

In support of this approach, Metabiota intends to administer high-value OHE trainings in order to support strategic DTRA CBEP objectives by enhancing local and regional collaboration on topics critical to biological threat reduction, and enhancing the regional capacity to perform biorisk management and mitigate the threat of infectious disease events. Metabiota's on-the-ground experience and decades of expertise makes it well positioned to support the implementation of this activity, as well as overall scientific engagement in AFRICOM's area of responsibility.

Goals and Objectives

Metabiota will engage with key Ugandan stakeholders including the Ministry of Health (MOH) and the Centers for Disease Control and Prevention – Uganda (CDC-UGA), to conduct a series of a One Health Epidemiology (OHE) training courses, originally developed by epidemiologists from the Walter Reed Army Institute of Research (WRAIR), for District-level health practitioners in Uganda. This OHE training series will cover basic epidemiology (Module One) and outbreak investigations (Module Two). These modules introduce basic concepts of epidemiology, statistics, outbreak investigation, surveillance, One Health, and clinical recognition of pathogens with bioterror potential.

To achieve this purpose, Metabiota and the collaborative partners will:

- Coordinate with key stakeholders in Uganda to identify up to 4 Ugandan OHE trainers to conduct OHE trainings;
- Collaborate with key stakeholders in Uganda, to ensure the identified 25-30 district representatives per cohort meet OHE training participant criteria and are able to fulfill all training requirements;
- Facilitate the conduction of Module 1 OHE training for Cohorts 9 & 10 thereby enhancing Districts-level knowledge of basic epidemiology best practices;
- Facilitate the conduction of Module 2 OHE training for Cohorts 9 & 10 thereby enhancing Districts-level knowledge of outbreak investigations for EDPs;
- Foster collaborations and communications between participants of unique Districts in Uganda.

Threat Reduction Outcomes

Through the implementation of Metabiota facilitated OHE trainings for key stakeholders in Uganda, DTRA CBEP will have:

- Increased local scientific capacities by fostering collaborations between participants of unique Districts.
- Enhanced and improved disease detection, reporting and response systems across

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Uganda.

- Enhanced the capacity to detect and diagnose diseases and emerging threats of pathogens of concern.
- Implemented laboratory management best practices and principles by following internationally accepted guidelines and standards for reporting outbreaks.

This activity will provide a measurable and achievable result in raising awareness of EDPs among DTRA CBEP AFRICOM partners and facilitating efforts in Uganda to formally educate those who play a pivotal role in disease detection and outbreak response related efforts. Moreover, this activity will concurrently promote a sub-regional network of stakeholders thereby enhancing the development of a sustainable infrastructure for advancing scientific research, including early detection of emergent threats.

Risk Management

In order to maintain our course of action and guarantee trainings that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown on the next page as Table 1. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Cost						
Communication and cultural boundaries disrupting training preparation and execution	Participants, and presenters do not have a clear understanding of logistical support	4	5	(b)(4); (b)(6)	Before the training Metabiota will support CDC-Uganda and MoH to ensure communication is provided to participants and presenters clearly outlines support for the training	Med
Schedule						
Submission of CCRs and TEPs	CCRs must be submitted at least 45 days prior to each event, and TEPs 65 days prior, and are dependent upon receipt of Letters of Technical Direction	5	5	(b)(4); (b)(6)	Upon receipt of the Letter of Technical Direction, Metabiota shall immediately submit all DTRA required travel documents	**Med-High**
Performance						

Ability to Collaborate with MoH Uganda	Trainers from the MoH Uganda are required for effective implementation	4	2	Med	Metabiota will directly engage MoH trainers to ensure buy-in and support	(b)(4); (b)(6)
Logistics Coordination	Russian based logistics company that is locally staffed, which can lead to misinterpretation of vital information	3	3	Med	Metabiota will directly engage both Russian and local based offices of TTTI/CLS	

Implementation Plan

Introduction

Metabiota will employ its existing organizational leadership to interface with the Regional Science Manager and Country Manager, as needed, to direct the operational and administrative support required to ensure implementation of the OHE Training. Our Program Manager will oversee administrative and operational functions, with the support of a project manager, travel coordinator, SMEs, trainers, and mentors to ensure that all aspects of cost, schedule, and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Communications Protocols

Metabiota will maintain open communications with international collaborators necessary for implementing the training, to include local and regional stakeholders. In addition, Metabiota will maintain routine communication with DTRA CBEP to ensure they have full visibility on the training engagement, status, and process of execution.

Technical Approach

Components of Technical Approach

Metabiota will use the following technical approach to manage all tasks required for successful implementation of the project components and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. The following components will be executed concurrently and are required for this project:

Phase 1: Program Management and Coordination
Phase 2: Training Administration
Phase 3: Training Implementation

Component 1 – Program Management and Coordination (June 1, 2015 – December 31, 2015)

Objective: Coordinate with key in-country stakeholders to ensure trainers are properly oriented with the OHE training materials and training plan, participants meet criteria and have

committed to fulfilling all requirements, and ensure responsible parities for contingent steps (logistics planning, participant coordination, trainer coordination, etc.) are identified and able to fulfill responsibilities within time, budget, and scope.

Process: Metabiota, in coordination with DTRA CBEP and key in-country stakeholders, will establish a communication plan and responsibility matrix for the conduction of the four OHE trainings, covering Module 1 and 2 for Cohorts 9 and 10. The project team will coordinate to finalize the trainer and participant lists for each cohort and training (4 trainings total, 3 trainers per training, 25-30 participants per cohort) and ensure all parties involved are able to participate in full and fulfill all training requirements.

Metabiota will coordinate with local partners to disseminate timely and accurate correspondences and Letters of Invitation (LOIs) to all participants and trainers. Metabiota will coordinate with CLS for all participant and event logistics, as well as for the procurement of any necessary materials and training supplies.

Deliverables:

- Deliverable #1: Effective communications between all stakeholders to ensure all project activities are efficiently executed in accordance with Client and Host Country expectations and guidelines;
- Deliverable #2: Maintain project schedules to ensure implementation of high-quality trainings within proposed project budget and in accordance with the technical approach (above);
- Deliverable #3: Maintain client, stakeholder, and contractor relationships;
- Deliverable #4: Submission of all final training related documentation and reports.

Component 2 – Training Administration (July 1, 2015 - December 31, 2015)
Objective: Develop quantitative and qualitative evaluations of all training Module 1 and Module 2 events. Provide lessons learned and recommendations in After Action Reports (AARs).

Process: Metabiota, in coordination with in-country stakeholders and Ugandan OHE trainers, will conduct both daily evaluations and pre- and post-training testing in order to develop a comprehensive evaluation of the training implementation. After the completion of all four trainings and data analysis, Metabiota will develop a comprehensive qualitative and quantitative evaluation of the training implementation.

Deliverables:

- Deliverable #1: Develop all training-related documentation and CDRLs - Responsibility Matrix, Training Event Plans (TEPs), CLS forms, and Finalized Trainer and Participant Lists;
- Deliverable #2: Development of After Action Report;

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- Deliverable #3: Development of training evaluation report(s).

Component 3 – Training Implementation (July 1, 2015 - November 30, 2015)
Objective: Facilitate the conduction of Module 1 and 2 OHE trainings (5 days each) for Cohorts 9 and 10 in the Wakiso and Hoima Districts, respectively, and provide technical and programmatic support for the trainers and participants to complete of interim training requirements between Modules 1 and 2. Additionally, Metabiota will support and encourage collaboration and communication establishment amongst participants, with a focus on neighboring Districts, throughout the training sessions and the interim activities.

Process: Metabiota, in coordination with DTRA CBEP and key in-country stakeholders, will facilitate the four OHE trainings. In order to provide the Ugandan stakeholders with both technical and programmatic support and ensure project goals and objectives are being met, Metabiota trainers and, potentially, a scientific mentor will travel to each of the four trainings. Metabiota will conduct pre- and post- training testing as well as hold daily feedback sessions with the Ugandan trainers to identify gaps, reorient (if necessary) training approaches, and discuss lessons learned.

Deliverables:

- Deliverable #1: Submission of daily training evaluations and participant feedback;
- Deliverable #2: Submission of four Training Trip Reports (TTR) highlighting next step recommendations and cohort and module-specific lessons learned.

The below table describes the detailed technical approach that Metabiota will take to complete this effort and provide the required deliverables. The following table (Timeline) describes the anticipated timeline of each phase.

Timeline

Training	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15
Mod 1			[redacted]		Cohort 10		
Mod 2					[redacted]		Cohort 10

Management Approach

Project Team Structure
Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the Program Manager, Project Coordinator, Training Coordinator, Trainers, SMEs and Local National trainers, that will be tasked with specific assignments to support the development and implementation of training based on their administrative and scientific expertise. This team of experts will ensure the overall project management and tasks associated

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with this effort are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.

Initiation

Prior to initiating any action, Metabiota and DTRA CBEP will secure a clear understanding of the objectives and mission of this undertaking, and make sure all stakeholders agree to it. Following authorization to proceed by DTRA CBEP, Metabiota will move into the planning and execution of the community outreach and regional workshop activities.

Execution

The core project management team will maintain oversight and implementation of the project at all times and will ensure rapid execution of this effort, tracking objectives to ensure the project stays on schedule to complete the training modules. The project will be managed according to the phased implementation plan and will be course-corrected, as needed, to ensure target end-goals are met. The following tools will be used to guarantee the project schedule will be maintained:

Project Administration:

1. Weekly team meetings and conference calls will be held to internally review the project achievements, accomplishments, barriers, or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Coordinator and will include the Program Manager, Training Coordinator, SMEs, and AEP leadership, as needed, based on the requirements and stage of implementation. Routine calls and communication will be held with DTRA CBEP regional leadership and Metabiota to provide routine status updates and ensure project implementation expectations are met.

Project Reporting:

1. Weekly status reports will be provided by the Program Manager to senior Metabiota leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction as needed to ensure training goals are met.

Monitoring and Controlling:

1. Routine risk assessment will continue to be performed internally among the Metabiota project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with DTRA CBEP regional leadership to ensure the project remains on track and is implemented according to standard. Routine oversight and coordination will be performed to ensure subcontractors are meeting contract requirements to ensure successful planning and execution of the

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training. Monitoring will include both administrative and fiscal oversight when appropriate.

Completion:
Metabiota will drive the project to completion in a timely manner by maintaining a focused project schedule with routine meetings and communication with DTRA CBEP regional leadership. This will allow for continued coordination, while maintaining targeted objectives. As the activity progresses, Metabiota will provide all required deliverables and after action reports to allow for lessons learned and continuation of solid execution and implementation of activities. Metabiota believes that the experience and management it will bring to this project, in collaboration with DTRA CBEP will guarantee success.

Cost Management
The Metabiota team and all partners will maintain an acute focus on cost management to ensure that the training is delivered at a reasonable cost to the government. Our team will ensure accurate and responsive financial reporting and will facilitate cost savings to the Government wherever possible. Metabiota will follow procurement regulations ensuring the best price is received under the time constraints using all means available.

Budget Narrative

Period of Performance
The Period of Performance for this effort is May 16, 2015 to December 31, 2015.

Labor
Costs for direct labor to support this activity is required for the following personnel:

- Metabiota Program Manager (b)(6) will oversee the execution of program objectives towards the completion of DTRA CBEP goals at the regional level, and will lead communication with DTRA CBEP for this activity. (b)(6) will do so by maintaining oversight of stakeholder coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. (b)(6) will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables erstwhile ensuring the program remains within scope, budget, and timeline.
- Metabiota Project Coordinator (Research and Data Analyst): (b)(6) will ensure the execution of project objectives towards the completion of DTRA CBEP goals at the project level. (b)(6) will do so by supporting stakeholder coordination and project execution, with a focus on project milestone achievement and stakeholder buy-in development and maintenance. (b)(6) will regularly communicate project status with (b)(6) and will assist (b)(6) in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder (b)(6).

(b)(6) will also assis (b)(6) in ensuring all project requirements and deliverables are fulfilled while concurrently ensuring the project remains within scope, budget, and timeline.

- Metabiota Technical Manager (Trainer III)- (b)(6) will oversee all aspects of the execution of the training events. (b)(6) will submit and track all Training Event Plans (TEPs), Training Trip Reports (TTRs), and After Action Reports (AARs). (b)(6) will also direct and manage the local trainers, ensuring optimal execution of all training objectives. (b)(6) will manage in-country stakeholders and project execution, with a focus on buy-in maintenance. (b)(6) will direct feedback sessions with the local trainers daily, along with the Scientific Mentor, to discuss training material, lessons-learned, and review survey results from the participants. In addition (b)(6) will suppor (b)(6) ensuring the program remains within scope, budget and timeline.
- Metabiota Scientific Mentor- (b)(6) is an internationally known expert in epidemiology, virus ecology, viral hemorrhagic fevers, fundamentals and domains of disease emergence. Since the 1970s, he has been leading international teams with partner institutions of developing countries (Dakar, Senegal; Bangui, Central African Republic). He largely contributed to developing tools and implementing strategies for the control and prevention of transmitted disease, and has been published in more than two hundred scientific papers in peer-reviewed journals. (b)(6) will support the OHE training programs by mentoring the local trainers and District participants in outbreak investigation and response best practices. In addition (b)(6) will facilitate the scientific collaborations and support daily training implementation discussions.
- Metabiota Regional Trainer and Mentor (Trainer I)- (b)(6) f Sierra Leone, is a recognized epidemiologist focusing in VHF contact tracing and rapid response systems (b)(6) has lead on-the-ground teams of health workers investigating VHF outbreaks and clusters. (b)(6) will serve as a regional scientific mentor to both the participants and the local trainers. In addition, (b)(6) will facilitate and support scientific collaborations and provide lessons-learned from his field experience while operating in the recent/ongoing Ebola outbreak in West Africa.
- Metabiota Local Trainers (Trainer I)- (b)(6) (b)(6) will serve as lead trainers of the OHE modules 1 and 2 material. Each trainer is a Ministry-recognized and selected expert in the areas of outbreak investigation, surveillance, and response. They will execute the pre- and post-tests, as well as the daily surveys from the participants. The Trainers will lead small group sessions in a 1:6 ratio, and support and guide the participants' working projects that occur between modules. Working closely with I (b)(6) the Trainers will implement all OHE training materials including lectures, computer enrichment sessions, and exercises.

The information contained herein is Metabiota PROPRIETARY information and may include Metabiota CONFIDENTIAL information and shall not be disclosed outside of the U.S. Government, as per the statement found on the cover page.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials

Minor materials and supplies are required to support project activities including stakeholder outreach and coordination, training material production, and host country approval facilitation. Materials will include:

International Communication-Semi-monthly stakeholder meetings will occur to coordinate all upcoming trainings in-county. Internet systems and international calls will be utilized for this effort. Routine updates will take place via e-mail.

Printing Services- One set of OHE Modules 1 and 2 books, for 25 participants, and one set of Instructor Manuals, for 2 trainers, will be required. It is assumed that CLS will manage printing of all necessary materials. Metabiota will prepare the necessary documentation (e.g., CLS request forms) when seeking support for this activity.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all project participants in accordance with DBA guidelines.

Subcontracts

Local trainers may be utilized for execution of the training and will be subject to an Independent Consultant agreement.

Travel

Funds are requested for three Metabiota personnel (two CONUS, one OCONUS) to travel to Uganda to facilitate each training event, four in total. Specifically, funding has been budgeted to support travel for two Metabiota personnel from CONUS for training implementation and oversight purposes. Additionally, in an effort to promote regional networking and capacity development, Metabiota has also budgeted travel funds for a Sierra Leonean field epidemiologist (e.g. (b)(6)) to air in training implementation. Metabiota staff will support project implementation, coordinate stakeholders, and provide technical support for Ugandan OHE trainers. Metabiota staff will hold daily feedback sessions with the trainers prior to beginning coursework for the day, and support computer enrichment activities that follow each evening. Prior to execution of travel, a cost estimate will be provided to the AEP COR for review and approval. Metabiota will submit CLS forms requesting travel logistics support for participants (e.g., Trainees).

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Conclusion

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP AFRICOM in the implementation of the One Health Epidemiology Training in Uganda. Metabiota will ensure, through strong project management and risk mitigation, that the training will be executed in an efficient and timely manner, delivering a top-quality course geared to support enhanced biosurveillance and biosafety efforts in the region.

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Appendix A - Team Metabiota Overview

Metabiota is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science, including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in 20 countries and offices in San Francisco, Washington, China, Canada, and Sierra Leone.

Metabiota currently supports a number of Defense Threat Reduction Agency's Cooperative Biological Engagement Program (DTRA CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. Metabiota's mission aligns well with DTRA CBEP and the entire Metabiota team is focused on supporting our USG Partners in reducing the risk of biological threats worldwide, and employs a collaborative and agile approach to biological risk reduction.

To ensure a successful event, Metabiota, in coordination with DTRA CBEP regional leadership and in-country partners have built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGO) whose respective aims could impact DTRA CBEP objectives.

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METABIOTA

Technical Direction 014 Development of Writing Workshop and Mentorship of Participants of the One Health Zoonotic Diseases Workshop held in Kenya.

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: August 4 2015
PERIOD OF PERFORMANCE: July 21 2015 - May 15 2015
PROJECT: One Health Zoonotic Writing Mentorship

LABOR *(fully loaded based on MOD 18*	**Hours**	**Amount**
(b)(4); (b)(6)	430	(b)(4); (b)(6)
	1,380	
	588	
	534	
	902	
Total Labor Costs (fully loaded):	**3,834**	

OTHER DIRECT COSTS *(fully loaded):*

CLIN 1003 Materials	$	17,053.74
CLIN 1004 ODCs	$	3,543.16
CLIN 1005 Travel	$	40,691.00

(b)(4); (b)(6)

Technical Direction 014 Development of Writing Workshop and Mentorship of Participants

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: August 4 2015
PERIOD OF PERFORMANCE: July 21 2015 - May 15 2015
PROJECT: One Health Zoonotic Writing Mentorship

oaded based on MOD 18

	Hours		Amount
(b)(4); (b)(6)	430	$	(b)(4); (b)(6)
(b)(4); (b)(6)	1,380	$	
	588	$	
	534	$	
	902	$	
Total Labor Costs (fully loaded):	**3,834**		
OTHER DIRECT COSTS *(fully loaded):*			
CLIN 1003 Materials		$	17,053.74
CLIN 1004 ODCs		$	3,543.16
CLIN 1005 Travel		$	40,691.00
Total Other Direct Costs (fully loaded):			(b)(4); (b)(6)
(b)(4); (b)(6)			

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: August 4 2015
Project One Health Zoonotic Writing Mentorship
Period of Performance: July 21 2015 - May 15 2015

CLIN No.	Labor Description	Cost	Total Hours	Total Billable
CLIN 1002		(b)(4); (b)(6)	430	
CLIN 1002			1,380	
CLIN 1002			588	
CLIN 1002			534	
CLIN 1002			902	

(b)(4); (b)(6)

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: August 4 2015
Project One Health Zoonotic Writing Mentorship
Period of Performance: July 21 2015 - May 15 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	Scientific articles from online journals	35	400	$ 14,000.00
1003	Office supplies	100	1	$ 100.00
1003	International communications	300	7	$ 2,100.00
				$ -
				$ -
				$ -
			Sub-Total	16,200

(b)(4);(b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: August 4 2015
Project One Health Zoonotic Writing Mentorship
Period of Performance: July 21 2015 - May 15 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance	$ 2,713.40	1	2,713
1004				-
1004				-
1004				-
1001				-
			Sub-Total	2,713

(b)(4); (b)(6)

TRAVEL ESTIMATE COST

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: August 4 2015
Proposal: One Health Zoonotic Writing Mentorship
Period of Performance: July 21 2015 - May 15 2015

	International
Traveler:	PM, PC, 5 SMEs
Departure Location:	Washington, DC
Destination:	Nairobi, Kenya
Purpose:	Implement scientific writing workshop
Airfare	$1,500
Service fee	$43
Lodging	2,030
Meals / Incidentals	960
Meals / Incidentals (First and Last Travel Days)	180
Ground Transport (US)	$300
Ground Transport (Kenya)	$100
Daily Ground Transport	$400
Incidentals (Visa)	300
total # days	10
# of nights lodging	7
Total Per Trip	**$5,813**
No. of trips	1
No. of persons	7
SUBTOTAL:	**$40,691**

GRAND TOTAL
$40,691

USG Foreign Per Diem Rates

Location	Maximum Lodging	M&IE	Total
Nairobi, Kenya	290	120	0

Itinerary

Day 1	Depart CONUS
Day 2	Arrive Kenya
Day 3	Prep day
Day 4	Workshop day 1
Day 5	Workshop day 2
Day 6	Workshop day 3
Day 7	Workshop day 4
Day 8	Workshop day 5
Day 9	Workshop day 6, Depart Kenya
Day 10	Arrive CONUS

TYPE	CATEGORY	DESCRIPTION	TOTAL
Proposal Development			
Metabiota	PM	The Program Manager (PM) participates in and leads proposal development, tasking the Project Coordinator (PC) with specific assignments. The PM is also responsible for development of the budget to include labor estimates.	49
Metabiota	SME1	The Project Coordinator (PC) participates in proposal development by contributing ideas toward the plan and writing specific sections as tasked by the PM.	44
Phase 1 - Project Coordination & Landscape Analysis			
Metabiota	PM	The PM will oversee coordination with relevant stakeholders and the development and submission of the training landscape review.	47
Metabiota	SME1	The PC leads coordination with Kenyan stakeholders and the development of a training landscape analysis.	42
Phase 2 - Participant Identification and SME Matching			
Metabiota	PM	The PM will oversee the identification and selection of workshop participants as well as ensure subcontracted SMEs follow all DTRA CBEP requirements and best practices.	94
Metabiota	SME1	The PC leads coordination in identifying and selecting workshop participants as well as identifying and establishing subcontractor agreements with the selected mentor SMEs.	105
Metabiota	SME3	The Subject Matter Expert 3 (SME3) will participate in initial coordination and communication activities necessary to appropriately pair them with workshop participants.	101
Phase 3 - Hypothesis Development and Article Framing			
Metabiota	PM	The PM will oversee the coordination and mentorship activities, as well as provide oversight and guidance for logistic coordination in anticipation of the workshop.	109
Metabiota	SME1	The PC will lead coordination between mentor SMEs and participants through the hypothesis development and framing period. The PC will provide oversight and management support to the mentor SMEs throughout this phase. The PC will communicate programmatic and logistic requirements and stakeholder input to the PM.	218
Metabiota or IC	SME3	The Subject Matter Expert 3 (SME3) will provide mentorship and support to participants in developing a draft hypotheses to their assigned participants (up to 4). SMEs will work closely with the participants in order to understand their research goals and the body of data collected, and will assist participants in refining their analysis and initial drafting of their manuscript.	103
Metabiota or IC	RDA	The Research and Data Analysts (RDA) will provide support to the mentor SMEs and participants in developing a draft hypotheses. RDA will work closely with the participants in order to understand their research goals and the body of data collected, and will assist participants in refining their analysis using statistical best practices, and in the initial drafting of their manuscript.	140
Metabiota or IC	SME3	The Subject Matter Expert 3 (SME3) will provide mentorship and support to participants in developing a draft hypotheses to their assigned participants (up to 4). SMEs will work closely with the participants in order to understand their research goals and the body of data collected, and will assist participants in refining their analysis and initial drafting of their manuscript.	103
Metabiota or IC	RDA	The Research and Data Analysts (RDA) will provide support to the mentor SMEs and participants in developing a draft hypotheses. RDA will work closely with the participants in order to understand their research goals and the body of data collected, and will assist participants in refining their analysis using statistical best practices, and in the initial drafting of their manuscript.	140
Metabiota or IC	SME3	The Subject Matter Expert 3 (SME3) will provide mentorship and support to participants in developing a draft hypotheses to their assigned participants (up to 4). SMEs will work closely with the participants in order to understand their research goals and the body of data collected, and will assist participants in refining their analysis and initial drafting of their manuscript.	103
Metabiota or IC	RDA	The Research and Data Analysts (RDA) will provide support to the mentor SMEs and participants in developing a draft hypotheses. RDA will work closely with the participants in order to understand their research goals and the body of data collected, and will assist participants in refining their analysis using statistical best practices, and in the initial drafting of their manuscript.	140
Metabiota or IC	SME2	The Subject Matter Expert 2 (SME2) will provide mentorship and support to participants in developing a draft hypotheses to their assigned participants (up to 4). Smes will work closely with the participants in order to understand their research goals and the body of data collected, and will assist participants in refining their analysis and initial drafting of their manuscript.	103
Metabiota or IC	RDA	The Research and Data Analysts (RDA) will provide support to the mentor SMEs and participants in developing a draft hypotheses. RDA will work closely with the participants in order to understand their research goals and the body of data collected, and will assist participants in refining their analysis using statistical best practices, and in the initial drafting of their manuscript.	140
Metabiota or IC	SME2	The Subject Matter Expert 2 (SME2) will provide mentorship and support to participants in developing a draft hypotheses to their assigned participants (up to 4). Smes will work closely with the participants in order to understand their research goals and the body of data collected, and will assist participants in refining their analysis and initial drafting of their manuscript.	103
Metabiota or IC	RDA	The Research and Data Analysts (RDA) will provide support to the mentor SMEs and participants in developing a draft hypotheses. RDA will work closely with the participants in order to understand their research goals and the body of data collected, and will assist participants in refining their analysis using statistical best practices, and in the initial drafting of their manuscript.	140
Phase 4 - Writing Workshop Implementation			
Metabiota	PM	The PM will oversee the production of the workshop and ensure project objectives and subcontractor requirements are met. The PM will coordinate post-action report submissions to the funder.	72
Metabiota	SME1	The PC will lead the conduction of the 5-day workshop, ensuring project objectives and subcontractor requirements are fullfilled. The PC will provide subcontractor oversight in the collection of post-training reports and knowledge gained assessments.	72
Metabiota or IC	SME3	The SME3 will conduct workshop lectures related to their area of expertise and will lead working group sessions and individual mentorship to participants over 5 days. SME3 will draft TTRs and after action reports detailing the overall training processes and lessons learned.	72
Metabiota or IC	SME3	The SME3 will conduct workshop lectures related to their area of expertise and will lead working group sessions and individual mentorship to participants over 5 days. SME3 will draft TTRs and after action reports detailing the overall training processes and lessons learned.	72
Metabiota or IC	SME3	The SME3 will conduct workshop lectures related to their area of expertise and will lead working group sessions and individual mentorship to participants over 6 days. SME3 will draft TTRs and after action reports detailing the overall training processes and lessons learned.	72
Metabiota or IC	SME2	The SME2 will conduct workshop lectures related to their area of expertise and will lead working group sessions and individual mentorship to participants over 6 days. SME2 will draft TTRs and after action reports detailing the overall training processes and lessons learned.	72
Metabiota or IC	SME2	The SME2 will conduct workshop lectures related to their area of expertise and will lead working group sessions and individual mentorship to participants over 6 days. SME2 will draft TTRs and after action reports detailing the overall training processes and lessons learned.	72
Phase 5 - Paper Finalization and Publication Submission			
Metabiota	PM	The PM will oversee the coordination of the submission process. The PM will communicate the status of manuscript submissions and acceptance with the funder.	49

Metabiota	SME1	The PC leads coordination throughout the manuscript finalization and submission process. The PC provide support in the journal identification and submission process, and will communicate submission stastus to the PM and funder.	97
Metabiota or IC	SME3	The SME3 will provide mentorship to work shop participants in the refinement and journal submission process. SME3 will assist participants in the journal identification process in order for them to select the best suited journals for submission based upon the impact and topics of their research	72
Metabiota or IC	RDA	The Research and Data Analysts (RDA) will provide support to the mentor SMEs and participants in refining the manuscripts and identifying and submitting to appropriate Journals for publication. The RDA will work closely with the participants to identify the most appropriate journals for submission, and to verify all publication-specific requirements are met	136
Metabiota or IC	SME3	The SME3 will provide mentorship to work shop participants in the refinement and journal submission process. SME3 will assist participants in the journal identification process in order for them to select the best-suited journals for submission based upon the impact and topics of their research	72
Metabiota or IC	RDA	The Research and Data Analysts (RDA) will provide support to the mentor SMEs and participants in refining the manuscripts and identifying and submitting to appropriate Journals for publication. The RDA will work closely with the participants to identify the most appropriate journals for submission, and to verify all publication-specific requirements are met	136
Metabiota or IC	SME3	The SME3 will provide mentorship to work shop participants in the refinement and journal submission process. SME3 will assist participants in the journal identification process in order for them to select the best-suited journals for submission based upon the impact and topics of their research	72
Metabiota or IC	RDA	The Research and Data Analysts (RDA) will provide support to the mentor SMEs and participants in refining the manuscripts and identifying and submitting to appropriate Journals for publication. The RDA will work closely with the participants to identify the most appropriate journals for submission, and to verify all publication-specific requirements are met	136
Metabiota or IC	SME2	The SME2 will provide mentorship to work shop participants in the refinement and journal submission process. SME2 will assist participants in the journal identification process in order for them to select the best-suited journals for submission based upon the impact and topics of their research	72
Metabiota or IC	RDA	The Research and Data Analysts (RDA) will provide support to the mentor SMEs and participants in refining the manuscripts and identifying and submitting to appropriate Journals for publication. The RDA will work closely with the participants to identify the most appropriate journals for submission, and to verify all publication-specific requirements are met	136
Metabiota or IC	SME2	The SME2 will provide mentorship to work shop participants in the refinement and journal submission process. SME2 will assist participants in the journal identification process in order for them to select the best-suited journals for submission based upon the impact and topics of their research	72
Metabiota or IC	RDA	The Research and Data Analysts (RDA) will provide support to the mentor SMEs and participants in refining the manuscripts and identifying and submitting to appropriate Journals for publication. The RDA will work closely with the participants to identify the most appropriate journals for submission, and to verify all publication-specific requirements are met.	136
Phase 6 - Post-submission Assistance and Summary Report Development			
Metabiota	PM	The PM will oversee the program management and technical support during the post-submission stage provided by the SME mentors and the Metabiota team. The PM will ensure the delivery of all requirements and reports to the funder	10
Metabiota	SME1	The PC will provide program management and technical support to the workshop participants and SME mentors during the post submission stage. The PC will develop a final report detailing the overall processes and lessons learned, in addition to the results of all publication submissions, to the PM to be communicated to the funder	10
Metabiota or IC	SME3	The SME3 will, if necessary, work with participants post-submission to provide guidance toward answering any questions or comments that arise during the peer review process.	20
Metabiota or IC	SME3	The SME3 will, if necessary, work with participants post-submission to provide guidance toward answering any questions or comments that arise during the peer review process.	20
Metabiota or IC	SME3	The SME3 will, if necessary, work with participants post-submission to provide guidance toward answering any questions or comments that arise during the peer review process.	20
Metabiota or IC	SME2	The SME2 will, if necessary, work with participants post-submission to provide guidance toward answering any questions or comments that arise during the peer review process.	20
Metabiota or IC	SME2	The SME2 will, if necessary, work with participants post-submission to provide guidance toward answering any questions or comments that arise during the peer review process.	20

METABIOTA

August 04, 2015

(b)(6) Contracting Officers Representative J3CTB
Defense Threat Reduction Agency (DTRA)
8725 John J Kingman Road, #6201
Fort Belvoir, VA 22060

Sent via email to (b)(6)
CC: (b)(6)
(b)(6)

RE: HDTRA1-14-C-0104 Technical Direction 014 for the Development of a writing workshop to mentor selected participants of the One Health Zoonotic Diseases Workshop held in Kenya in March 2015.

Dear (b)(6)

Metabiota, Inc. (Metabiota) is pleased to present the attached proposal in response to the above referenced Letter of Technical Direction sent by DTRA on 21 July 2015.

For the effort described, Metabiota estimates the Rough Order of Magnitude (ROM) to be **$620,692.00** for a Period of Performance of 07/21/15 – 05/15/16. The detailed budget is included.

Please feel free to contac (b)(6) with questions or concerns at
(b)(6)

Sincerely,

(b)(6)

Contracts Manager

Metabiota's Technical and Cost Proposal

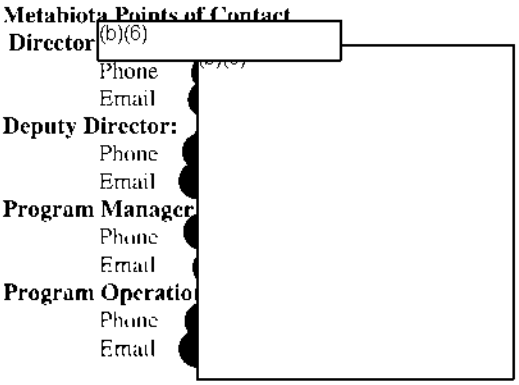
"DTRA/CBEP Nipah Research Activity Project- Philippines."

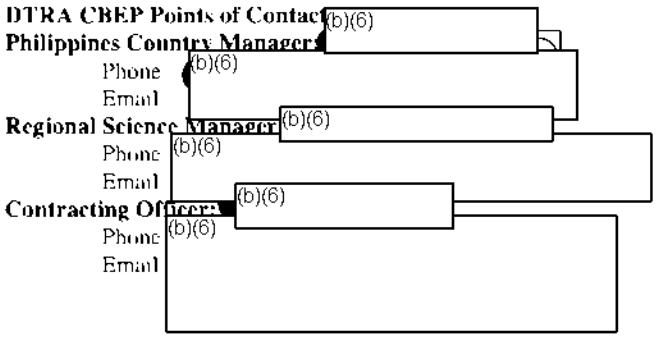
Technical Direction Number: TD-006
Contract Number: HDTRA1 14 C 0104
CAGE Code: 56SP4
DUNS number: 828131156

Small US Business
Metabiota, Inc.

METABIOTA

One Sutter Street, Suite 600 San Francisco, CA 94104





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Team Metabiota Overview

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Metabiota currently supports a number of Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. Metabiota's mission aligns well with CBEP and the entire Metabiota team is focused on supporting our U.S. Government (USG) Partners in reducing the risk of biological threats worldwide, and employs a collaborative and agile approach to biological risk reduction.

Metabiota has built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGOs) whose respective aims could impact CBEP objectives.

Project Overview

Introduction

Through AEP Technical Direction 006, DTRA CBEP Regional Leadership tasked Metabiota with assisting scientists from the Research Institute of Tropical Medicine (RITM) in the Philippines in executing a preliminary study on paramyxoviruses in support of biosurveillance activities across the Pacific Region. The study will take place over a 16.5-month period and will involve researchers and Subject Matter Experts (SMEs) from Metabiota, as well as key partners from Duke NUS and RITM to identify henipaviruses and potentially related strains circulating in Province Sultan Kudarat to accomplish the following objectives:

1. Determine the natural reservoir and host range for Nipah virus, other paramyxoviruses, and filoviruses in the Philippines
2. Enhance RITM capacity in next generation sequencing and analysis
3. Develop strain specific assays for the viruses detected during screening

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4. Generate full length genomes in part by using next generation sequencing platforms
5. Phylogenetic analysis of paramyxovirus and filovirus-positive samples
6. Develop long term surveillance capabilities and research engagements involving bats, human, and peridomestic species in the Philippines

Background

Bats are the only flying mammal (of the order Chiroptera), and are one of the most abundant, diverse vertebrates dispersed across all continents except Antarctica. They consist of more than 1100 species across 17 families (Nowak, 1994). Bats face the same threats as other mammals: habitat loss and hunting pressure. Bats host many noteworthy viral pathogens including filoviruses, coronaviruses, and paramyxoviruses, and are implicated as the sources of transferring these viruses to both humans and livestock. Understanding the ecology of reservoir-borne viruses is critical to the prevention of zoonotic epidemics and the global community's ability to implement preventative measures through biosurveillance initiatives that mitigate the threat of these viruses causing disease outbreaks on a pandemic scale.

The diversity of pathogens of potential public health importance discovered in or associated with bats has increased markedly. Yet the significance of these pathogens remains largely unknown. This lack of information on the basic biology of bat diseases in SE Asia is of great concern. The emergence of Ebola Reston virus in the Philippines demonstrates how; Emerging Infectious Diseases (EIDs) have no geographic borders, anthropogenic landscape changes can influence emergence, increased interactions between humans and bats lead to opportunities for transmission, and virus in reservoirs displaying no apparent illness can infect incidental hosts such as livestock and humans.

In addition, the discovery of the Nipah virus in the Philippines leads to many questions pertinent to public health. Nipah virus, a bat borne paramyxovirus that causes high morbidity and mortality to humans and livestock, was detected in 2014 in two villages in the southern islands of the Philippines (Province Sultan Kudarat). Human and horse deaths, in addition to neurologic disease in humans, prompted an investigation. Of the 17 patients studied, 41% had prepared or eaten horsemeat, the most likely transmission route. Surveillance detected neutralizing antibodies to henipaviruses in three patients. Deep sequencing detected a 71bp fragment that was closely related to Nipah virus sequences. Unfortunately, very little is known concerning the involvement of bats in the Philippines in henipavirus maintenance and transmission and requires further investigation. The unique aspects of the Philippines, being an archipelago with over 7,000 islands with exceptional bat biodiversity, severe habitat loss, human encroachment, and continued hunting and consumption of fruit bats, make it an optimal location to perform research into henipavirus and related strains that are circulating in this region.

Understanding

The Metabiota team understands that the U.S. Department of Defense (DoD) initiated CBEP through DTRA in order to: secure and consolidate select agents; enhance Biosafety and Biosecurity (BS&S) standards; and strengthen the USPACOM region's ability to detect,

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diagnose, survey, and report emerging and re-emerging diseases of international security concern and that CBEP accomplishes these objectives in accordance with the World Health Organization (WHO) International Health Regulations (IHR) and World Organization for Animal Health (OIE). The team further recognizes that to achieve its mission, CBEP works collaboratively with partner nations, USG agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health; promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner. Through the AEP Program, and implementation of this project, Metabiota aims to support the CBEP mission of reducing the potential impact of biological threats through enhanced biological surveillance, awareness of biological risks, and knowledge related to biological pathogens.

In support of achieving the CBEP mission, Metabiota intends to administer a high-value study that will support strategic CBEP objectives by increasing regional collaboration on topics critical to biological threat reduction, and enhancing the regional capacity to perform biosurveillance activities that reduce the threat of infectious disease events. The team's on-the-ground experience and expertise make us well positioned to support the implementation of this study in the USPACOM's area of responsibility.

Purpose

The purpose of this study is to provide scientific expertise and research support in conducting preliminary surveillance activities in Sultan Kudarat Province to determine the seroprevalance of henipavirus, and other related strains, in bats, as well as determining what animals may be exposed and the resulting potential threat of cross species transmission and human infection. The study will involve intensively sampling bats, specifically fruit bats, in the villages of Sultan Kudarat Province, where the 2014 Nipah virus outbreak occurred, and analysis of the collected samples and data to understand circulating genotypes and the potential for cross-species transmission. This study will support building host country capacity to detect, prevent and respond to infectious disease threats, as well as building biosurveillance networks and scientific collaborations across the region, further mitigating infectious disease threats and the potential for outbreaks.

To achieve this purpose, CBEP has identified the need for a study to determine the virus community of bat colonies in the Philippines, and if there is a risk of human infection due to cross species transmission and the animal-human interface existing in this region. Identifying the virus community in the colonies of bats is critical to understanding the risk posed in cultural practices involving the hunting and consumption of bats, as well as the treat created through cross species transmission, and the preventive measures that can be implemented to support the reduction of infectious disease threats circulating in this region.

This research will promote global health security and threat reduction by supporting fundamental research to decrease the threat of infectious diseases at the animal-human interface, as well as enhancing regional capability for pathogen research and surveillance. The study

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provides opportunities for research cooperation between U.S., regional, and host country scientists, contributing to a greater understanding of pathogen infection in humans and infectious disease surveillance. This will serve to enhance the host nation's capacity in disease surveillance and response, while adhering to international codes of security and safety to ultimately provide a mechanism for sustained engagement through ongoing surveillance and research activities.

To accomplish this purpose. DTRA CBEP, through AEP has engaged the Metabiota team and its cadre of Subject Matter Experts (SMEs) to support the study performed by the Research Institute for Tropical Medicine (RITM) in the Philippines in conjunction with Research Collaborators at Duke National University Singapore (NUS.)

Objectives

Through the implementation of the study on bat-borne virus transmission, facilitated by Metabiota, DTRA CBEP will be able to:

- Identify the reservoir and putative host range for Nipah or related viruses in the Philippines;
- Examine the seroprevalance of Nipah or related viruses in bats in the Philippines;
- Understand the risk factors for cross-species transmission, including which animals may be amplifying reservoirs;
- Improve molecular virus diagnostics and epidemiology study systems, to include enhancing RITM capacity in next generation sequencing and analysis;
- Generate full length genomes in part by using next generation sequencing platforms;
- Phylogenetic analysis of paramyxovirus and filovirus-positive samples;
- Develop strain specific assays for the viruses detected during screening;
- Support long-term surveillance in both wildlife and humans surrounding the use of bush meat in the Philippines;
- Support the development and implementation of biosafety and security measures to include best handling and laboratory practices supporting threat reduction;
- Support the development of disease reporting, surveillance and response systems regionally, thereby reducing global threat;
- Support regional scientists through capacity building efforts and scientific collaboration.

Threat Reduction Outcomes

The study will provide a measurable and achievable result in building scientific capacity in the region while promoting a global network of biosurveillance. detection and response, including the early detection of emergent threats.

Advancing research knowledge through the completion of relevant scientific studies is critical to capacity building efforts in host countries and supporting the early detection and response to emerging threats, as well as biosafety and security measures, thus safeguarding the world from infectious disease threats. Without completion of this study, the region is subject to the following identified risks:

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- Reduced regional biosurveillance capability and characterization of novel infectious disease outbreaks;
- Increased security threats due to practices potentially leading to disease transmission;
- Increased security threats due to improper handling, storage, and transport of pathogens of security concern;
- Decreased communication and scientific engagement among host-country scientists and the global scientific community, which can provide reach back support and capacity building to strengthen the host country's ability to detect and respond to disease threats;
- Reduced risk management capacity.

The completion of the study will mitigate the identified risk factors by:

- Improving and enhancing disease detection, reporting and response systems across the region;
- Decreasing security threats due to practices potentially leading to disease transmission;
- Implementing and improving biorisk management best practices and principles based on internationally acceptable guidelines and standards (enhancing the capacity to account for, safeguard, and secure pathogens of concern);
- Increasing biosafety measures in regional biosurveillance activities;
- Increasing scientific capabilities through research collaboration and fostering an environment of scientific partnership.

Risk Management

Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Logistical						
Costs to Exceed NTE	Realistic costs for implementing the study currently exceed NTE price.	4	4	**Med-High**	Metabiota will work to mitigate costs by choosing low-cost travel and procurement options.	Med
Materials Unavailable In Country	Materials and supplies that cannot be procured in country must be bought abroad and shipped through CLS, incurring extra cost, requiring extra lead time, and presenting further logistical challenges.	3	4	**Med-High**	Metabiota will work to purchase all materials/supplies possible in country, and will procure the rest from cost-effective sources to be shipped through CLS, or will have CLS procure and ship items according to approval.	(b)(4); (b)(6)
Team Coordination	Coordinating multiple teams from the US, Singapore, and Philippines presents logistical and cost challenges.	3	3	**Med-High**	Metabiota will work with in-country and international partners to handle logistical challenges as they arise.	

Extension of PoP	Research analysis timeframe will be extended to account for additional review requirements and adjusted timeframe to complete activities.	3	3	**Med-High**	Metabiota will work with collaborators to ensure deliverables are met in the allowable PoP and will coordinate with SMEs to maximize results on the project.	(b)(4); (b)(6)
Engagement of Local PI	The Lead Investigator at RITM is out of country for training activities through July. The RITM research team is concerned with beginning this engagement without him.	4	2	Med	Metabiota will work with DUKE NUS collaborators and scientists at RITM to set up agreements, logistical requirements and pre-coordination to support this activity in July, with a kickoff in August once he returns to the Philippines and can lead this effort.	
Location of Surveillance Sites	Sultan Kudarat Province is located in Southwestern Mindanao, a militarized, conflict zone. This may impede access to identified research sites in the region, as well as may require site relocation or additional training and security measures increasing costs and changing the scope.	4	5	(b)(4); (b)(6)	Local investigators will be used to conduct all sampling activities, as US personnel will not be granted access to sites. Additional training and security measures will be implemented, if necessary to ensure safety is maintained. Alternative sites and access to samples have been identified by the team and will be used, if necessary.	Med
Rainy Season	Manila's rainy season occurs from May - Nov with August being the wettest month often causing flooding and posing additional challenges to logistical implementation of sampling activities.	4	4	**Med-High**	Metabiota will work with RITM to shift sampling activities to drier months if needed and will look at targeting colonies in locations that will be most easily reached and less susceptible to severe rains and flooding.	Med
Field Sampling Logistical Requirements	Necessary shifts in sampling sites, due to weather or security concerns may result in unforeseen needs not identified in the project budget and technical requirements increasing costs.	4	3	**Med-High**	Metabiota will work with regional partners to identify needs up front and will implement best practices to ensure project is managed within scope and budget.	(b)(4); (b)(6)
Travel						
Program Startup Travel	The Philippines is a new area of operation, so travel to the region will be critical for oversight in the new program.	3	3	**Med-High**	Metabiota will work with in-country partners to secure the best rates for travel and logistics.	Med
Short Suspense Travel	Travel will need to begin in a relatively short period of time and several trips will be necessary to ensure study implementation, so this increases cost.	3	3	**Med-High**	Metabiota will start the travel logistics as soon as possible and will seek out the lowest feasible travel costs.	(b)(4); (b)(6)

Management Approach

Introduction

Metabiota will employ its existing organizational leadership to interface with the Regional Science Manager and Country Manager as needed to direct the operational and administrative support required, ensuring implementation of the Nipah Research Activity Project. Our Program Manager (b)(6) will oversee study implementation with the support of a project coordinator, travel coordinator, research and data analysts, SMEs and research collaborators, to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Project Team Structure

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the Program Manager, project coordinator, travel coordinator, research and data analyst, and a team of SMEs that will be tasked with specific assignments to support the development and implementation of the study based on their administrative and scientific expertise. Specifically, Metabiota will engage Duke NUS SMEs and RCs to oversee the technical implementation of this effort, and in direct support of the RITM researchers. RITM leadership will provide overall on-the-ground supervision, and will oversee their in-country team of field and laboratory research assistants that will conduct the day-to-day duties of the project. This team of experts will ensure the overall project management and tasks associated with the workshop are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.

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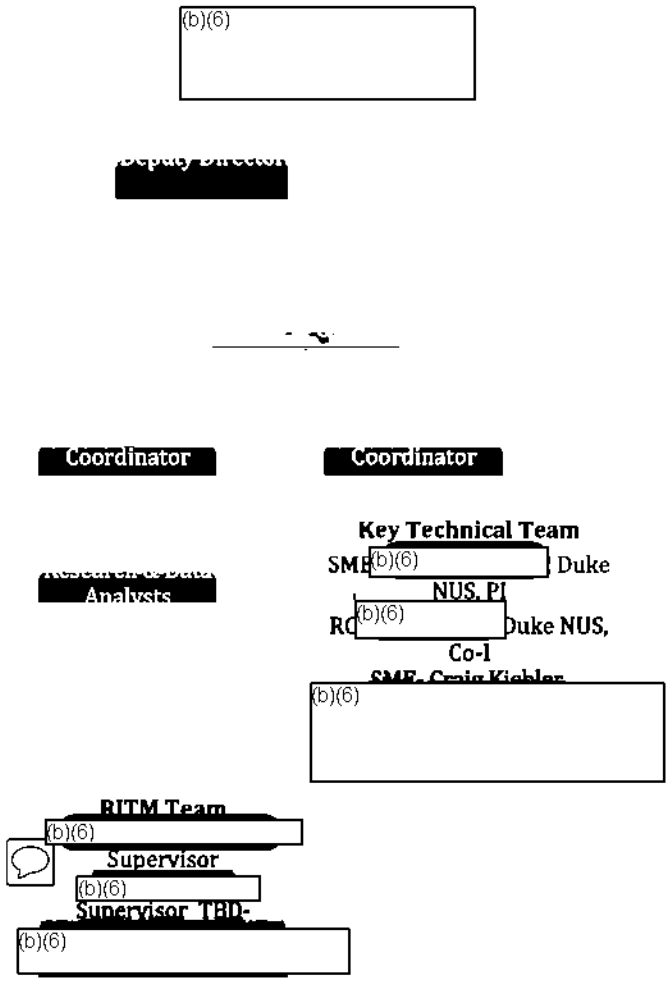

Initiation

Following guidance from CBEP USPACOM leadership, and working collaboratively with SMEs and RCs from Duke NUS, as well as local collaborators from RITM, Metabiota will initiate a project kickoff meeting held at Duke NUS in Singapore with all key collaborators. The kickoff meeting will involve discussions surrounding the objectives, ethical clearance, timeline, deliverables, staff coordination, sample storage, cold chain, field collection, sample screening, and data analysis required to implement this study. Duke NUS researchers will demonstrate their team's standard operating procedures and will provide study specific training for RITM collaborators on sample collection, to include collection of bat excreta, trapping and sampling of bats, and bat necropsy, as well as PCR-sequencing, study methodologies and data analysis. This kickoff meeting and the associated short training will ensure that study protocols are

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understood and can be implemented along with project review and logistical management of conducting the sampling and analysis throughout the remainder of the project. In addition, Metabiota will complete additional technical documents required by CBEP for study design, BS&S review ensuring biorisks associated with this research are mitigated through identification and implementation of enhanced safety and security measures. Prior to initiating any action, Metabiota's team and CBEP will secure a clear understanding of the objectives and mission of this undertaking, and ensure buy-in from all stakeholders. Following initiation of the study, to include implementation of all contractual requirements, ethical clearance, and appropriate agreements, Metabiota will move into the planning and execution phases of the study.

Planning and design

Completion of this task requires a 16.5-month study, to accommodate the contract PoP, and to maximize research time allowed for this effort, involving routine surveillance of identified bat colonies, and associated sample and data analysis conducted by RITM and Duke NUS. To facilitate this engagement Duke NUS and RITM and MoU will be signed between Duke NUS and RITM to support research collaboration and sample transfer. The surveillance will occur routinely in the Sultan Kudarat Province, of Mindanao, unless safety concerns and weather restrictions prohibit sampling in the area. If that is the case, colonies will be identified and sampled around Manila. RITM has previous experience working on bats and their related viruses and are very familiar with roosting sites where sampling can be conducted, with minimal disturbance to the colonies. In addition, aliquots of previously collected samples from in-country research collaborators working with RITM may be used to support this effort and provide additional data for testing, if field sampling events cannot be implemented as planned. All ethical clearance requirements to include, proper research agreements such as a MoU and MTA, will be implemented prior to any sampling or analysis-taking place.

The study-specific training provided to RITM researchers by Duke-NUS SMEs at the kickoff meeting in Singapore will facilitate the successful execution of the sampling events to include implementation of safe and secure sample collection, sample transport, and sample storage to ensure the highest likelihood of detecting viral RNA following study specific guidelines and protocol requirements. This will build on the CBEP sponsored training events hosted at Duke NUS in May 2015 and AAHL in April 2015, which included sample processing and training in both BSL2+ and BSL4 high containment facilities. Following sample collection over the intended sampling period, samples will be transported, stored and processed at RITM following safe handling practices and maintaining cold chain requirements. All samples will be stored in a virus inactivation buffer (RNALater, RNA Shield, or isogunadine), and extracted nucleic acids will be sent from RITM to Duke NUS for NGS library preparation and screening, following international regulations regarding sample shipments, and transfer of select agents following BS&S procedures. Remaining samples will be stored at RITM future research and enhanced virus characterization.

To accomplish the research goals of the study and due to the duration required to complete all activities, Metabiota intends to hold the kickoff meeting in August, following engagement of

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Duke NUS and RITM to secure study approval and implement the research. This will ensure strong coordination, oversight and implementation of the study in a collaborative framework. Following the kickoff meeting, Metabiota and Duke NUS project personnel will travel to Manila in support of BS&S activities, surveillance initiation, and research integration, ensuring strong regional ties and securing the project management efforts and logistical coordination required on the ground. For procurement and shipping of materials that cannot be purchased in country or by Duke NUS locally to support their efforts, Metabiota will utilize the services of CLS for logistical needs. In addition, CLS will be engaged for all travel requirements both in-country and internationally for those participating in the research activities, to include in-country surveillance as appropriate, and international travel for research collaborators that will be supporting this effort, but not charging time to the project.

Execution

The core project management team will maintain oversight and implementation of the study at all times and will ensure successful execution of the research, tracking implementation to ensure the study stays on schedule to meet the deliverable requirements within the study timeframe. The study will be managed according to the steps required to implement the research and will be course corrected as needed to ensure target end goals are reached. The following tools will be used to guarantee that the project schedule will be maintained:

Project Administration:

1. Weekly team meetings and conference calls will be held to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Team and will include the PM, Project Coordinator, RDA, SMEs and AEP leadership as needed based on the requirements and stage of implementation.
2. Routine calls and communication via email will be held with CBEP regional leadership, in-country collaborators, external SMEs and RCs, and Metabiota to provide routine status updates and ensure study implementation.

Project Reporting:

1. Weekly status reports will be provided by the PM to senior MB leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction as needed, to ensure that project goals are met.

Monitoring and Controlling

1. Routine risk assessment will be performed internally among the MB project management team to guarantee that the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with CBEP regional leadership to ensure that the project remains on track and is implemented according to existing standards.
3. Routine communication, to include monthly Skype meetings with the project teams and monthly reporting requirements implemented with teams in Singapore and the Philippines, will be maintained to ensure that the study is progressing and to

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troubleshoot any challenges faced in the field. Metabiota will maintain oversight and coordination of the study to ensure Duke NUS and RITM are maintaining technical, administrative and fiscal requirements to ensure successful execution of the research project.

Completion

Maintaining a focused project schedule with routine meetings and communication with CBEP regional leadership and partners, and allowing for continued coordination while maintaining targeted objectives, Metabiota will complete the research activity within the 16.5-month requirement. Dedicating experienced technical personnel to this project, as well as maintaining programmatic oversight will ensure that we meet the project objectives by May 2016. Metabiota believes that the experience and management it will bring to this project, in collaboration with regional SMEs, RCs, and CBEP, will guarantee success.

Technical Approach

Introduction

Metabiota will take every action possible to ensure the study can be completed in the assigned timeframe. We intend to implement the proposed research activities according to all necessary CBEP requirements by developing a detailed technical proposal (in historical CBEP terminology, the "Form A" plus associated documents like the Protocol Risk Assessment Tool, or PRAT) for review by the DTRA CBEP Science team prior to initiation of field activities. As this research does not propose procedures on animal subjects that inflict harm, Metabiota and partners will pursue an IACUC exemption status in accordance with US, Philippine and Singaporean regulations to ensure compliance protocols are met prior to implementation of research.

The content of the following technical proposal outlines the proposed activities which will be documented more fully in the finalized Form A. Metabiota welcomes all comments, questions, and requests for clarifications from DTRA CBEP and associated reviewers In addition, Metabiota will implement the proposed research activities according to CBEP requirements, to include development of a Form A research and work plan, to address additional research requirements, and ensuring the study can be implemented in the assigned timeframe, supporting solid scientific engagement within the region and resulting in risk mitigation and scientific collaboration to further develop and enhancement of biosafety and biosurveillance efforts on an international plane as we work to finalize project documentation.

This will be facilitated through the study implementation as follows: The identified colonies, specifically those of fruit bats, at either roosting or foraging sites, will be intensively sampled for the presence of known select agents that are naturally harbored in bats and that have caused mortality in humans. Previous studies monitoring bat colonies for virus shedding in their urine found there were distinct fluctuations of virus shedding. These viruses are of public health importance and our goal is to identify the natural reservoirs for these viruses, their distribution

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and understand the genetic diversity. Urine and fecal samples will be collected from underneath bat roosts using the required catchment supplies, and PPE for safe handling. Samples will be placed into lysis buffer/inactivation buffer, and processed in certified BSC II safety cabinets. Samples will be screened with PCR family-specific primers using next generation sequencing approaches to capture the maximum divergent virus lineages. This will promote knowledge on which viruses are circulating in the bats and when the peak shedding period is.

Field:
Colonies of fruit bats in the genus Pteropus or related pteropodids will be identified and urine and feces will be collected from them either bi-weekly or monthly. Plastic sheets will be placed underneath these colonies in the morning and individual urine samples and a pooled urine sample will be collected. Feces will also be collected. All samples will be stored in virus inactivation buffer (RNA Later, RNA Shield, Qiagen lysis buffer) and placed into a cold chain until brought back to RITM for storage at -80C and processing in BSC II safety cabinets. A maximum of fifty individual urine and fecal samples will be collected each trip, in addition to a pooled urine sample. Collectors will wear personal protective equipment, including N-95 masks, Tyvek suits, eye protection and gloves. Samples will be labeled with a unique identifier including the date and site of collection.

Laboratory:
Samples will be given a unique identification number and this will be tagged to the sample type and organism type so that there will be shared identification markers between data categories. This will enable researchers to maintain sample fidelity and ensure a known location for each original sample, extracted nucleic acid, and PCR product. All original samples will be kept in a secured, locked freezer, and sample information will only be made available to the project team members following appropriate in-country and ethical guidelines for sample storage and analysis. Biosafety and biosecurity will be maintained through the rigorous PPE used during collection, the disposal of the PPE, the placement of samples into lysis buffer/inactivation buffer, the processing of samples in certified BSC II cabinets, and the storage in locked freezers with access and location given only to certified staff.

RNA and DNA will be extracted from collected material (urine or feces) or from tissues (spleen, liver, lungs, and intestines) collected opportunistically from dead bats. Nucleic acid will be extracted using a QIAamp Viral RNA, QIAamp DNA Mini Kit, or an AllPrep DNA/RNA Mini Kit (Qiagen). These extractions will be enriched with either pathogen-specific biotinylated probes, sera, or by differential centrifugal spins. RNA will be chemically fractionated and double-stranded DNA will be synthesized. DNA will be pulled down by AMPure Agencourt beads and the DNA libraries will be constructed using a Clontech library construction kit or an Illumina Nextera or TruSeq sample preparation kit. Adaptors will be added to the libraries so samples can be multiplexed on a single run. Libraries will be analyzed for quality control purposes and these will be run on an Illumina MiSeq or Hiseq at the Duke-NUS Genome Science Center. Sequence contigs will be aligned to host genomes or the closest related

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vertebrate full genome and the matched sequences will be removed. Duke NUS researchers will de novo assemble the remaining sequences and use the BLAST or DIAMOND or KRAKEN algorithm to identify any virus elements. This NGS approach will aid in developing new specific primers for identified and newly discovered pathogens and improve the screening of samples using PCR and/or real time PCR as indicated above. In addition, to investigate the evolutionary genomics of selected pathogens of interest, as identified from the qPCR and serological surveys, the Duke NUS team will amplify multiple genes by Sanger sequencing using standard protocols.

Evolutionary dynamics analysis of pathogens:
Duke NUS will use a variety of analyses to determine the evolutionary dynamics of selected pathogens. Large-scale phylogenetic analyses will be conducted using maximum likelihood as implemented in RaxML, PhyML, or other programs as deemed appropriate. Phylogenetic reconstructions of genetic data will also be conducted with time-stamped sequence data using a relaxed-clock Bayesian Markov-chain Monte Carlo method as implemented in BEAST. This method allows for variable nucleotide substitution rates among lineages and also incorporates phylogenetic uncertainty by sampling phylogenies and parameter estimates in proportion to their posterior probability. For all analyses, an uncorrelated lognormal relaxed molecular clock will be used to accommodate variation in molecular evolutionary rate among lineages, the SRD06 codon position model, with a different rate of nucleotide substitution for the first plus second versus the third codon position, and the HKY85 substitution model then applied to these codon divisions. These particular parameters have proven generally robust in analysis of viral sequence data; however, their suitability will be assessed throughout the course of the project. The analyses will be conducted with a time-aware linear Bayesian skyride coalescent tree prior over the unknown tree space, with relatively uninformative priors on all model parameters. At least three independent analyses of 50-million generations will be performed and these analyses combined after the removal of an appropriate burn-in (10–20% of the samples in most cases), with 5,000 generations sampled from each run for a total of 15,000 trees and parameter estimates from which mean substitution rates, mean TMRCAs, Maximum Clade Credibility phylogenetic trees, and relative genetic diversity over time will be derived.

In addition, co-estimation of the temporal phylogeny (described above) will be conducted and ancestral state reconstruction of tip associated phenotypic traits, such as habitat, host species, and the age and sex of the animal will be completed. These traits are mapped to the phylogeny during the Bayesian tree search that allows for a statistical comparison of phenotype and genotype. This will allow Duke NUS researchers to test, for example, hypotheses about the distribution of of pathogens in different host species and habitats. If these analyses demonstrate significant asscoiation between observed penotypic trait and inferred evolutionary history, such as pathogens that were isolated from different subsets of the animal populations, such as a species restriction, teams may be able to identify potential molecular markers distinguishing these groups.

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Selection analysis will also be performed using DataMonkey and HYPHY. As an example, the single likelihood ancestor counting (SLAC) method, a codon-based approach as implemented in HYPHY will be used with a critical *p*-value of 0.05. Based on the most appropriate model of nucleotide substitution and a given tree topology, the SLAC method calculates a global dN/dS rate ratio (with 95% confidence intervals) and tests selection of variable codon sites based on the inference of the ancestral sequence. To determine if species selection was acting differentially on pathogens, dN/dS ratio estimates (with confidence intervals) will be calculated independently for each lineage.

This approach is geared towards achieving the following objectives:

- Determination of the natural reservoir and host range for Nipah virus in the Philippines;
- Serology of Nipah virus in bats;
- Description of the risk factors for cross species transmission and which animals may act as amplifying reservoirs to infect humans;

Implementation of this approach will result in:

- The determination of the specific criteria for molecular study for paramyxoviruses, specifically Nipah and Hendra virus utilizing isolates identification with CSIRO-validated methods and protocols for PCR;
- Phylogenetic analysis of paramyxoviruses (Nipah virus) and prevalent genotypes and relatedness to pathogenic variants will be determined;
- Control measures and biorisk assessment determination for the human activities regarding bat hunting and consumption of livestock that died from aberrant causes;
- Sample collection maintained at the RITM in Manila for future research and enhanced virus characterization supporting long-term research engagement and enhanced capacity building;
- Findings from the study will be used to produce policies that will minimize the exposure of bat borne viruses to livestock and how to minimize human exposure to bat excreta and urine;
- Enhanced biosurveillance capabilities to include training of researchers in the screening of bat diagnostic samples for virus surveillance, prevention and response;
- Regional collaboration and research engagement to include shipment of collected samples to Duke NUS for sequencing and analysis.

Communications Protocols

Metabiota will maintain open communications with international collaborators necessary for implementing the study, to include monthly project calls and routine email communication with the teams implementing and coordinating research activities. In addition, Metabiota will maintain routine communication with CBEP regional leadership to ensure they have full visibility on the project, status and process of execution.

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Phases of Technical Approach

Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project and to provide overall feedback and reporting on the project route to success. Metabiota will ensure that all CBEP requirements are met in implementing the research project, to include additional BS&S safety review and implemented measures, and a site assessment of partner laboratories, as required. The following phases are required for this project:

Phase 1*: Refine the Technical Proposal to include development of a Form A, as required by CBEP and developing a work plan to address BS&S requirements.

Objective and Process: Meet with all project stakeholders to develop a Form A, as required, which will expand upon objectives and overarching technical approach described above. The technical work plan will also outline all necessary BS&S, as well as biorisk safeguards related to project implementation.

Deliverable: Project Form A, SOP Manual, finalized PRAT

*Phase 1 will be implemented following guidelines received from CBEP based on review and submission of this proposal and PRAT.

Phase 2: Hold a project kickoff meeting in Singapore with research and administrative teams.

Objective and Process: Metabiota will coordinate with Duke NUS and RITM to schedule and facilitate a project kickoff meeting outlining the objectives of the study, logistical coordination required toward implementation, review of protocols and on-site training for RITM researchers in preparation for sampling and implementation following study specific guidelines and to further mitigate risk posed during sampling and analysis.

Deliverable: Initiation of research activities, study-specific training on protocols and safe handling, and sampling techniques required for project execution.

Phase 3: Implement sampling of bat colonies at identified sites.

Objective and Process: Metabiota will work with Duke NUS and RITM to identify appropriate sites, and collect bat samples following study-specific and safety protocols. Samples will be collected by a team of 4 local ecologists and will be overseen by Duke NUS-trained researchers at RITM. All samples will be transported back to RITM for sample processing and analysis following safe handling and proper cold chain methods of transport.

Deliverable: Collected samples from bats will be transported back to RITM for further processing.

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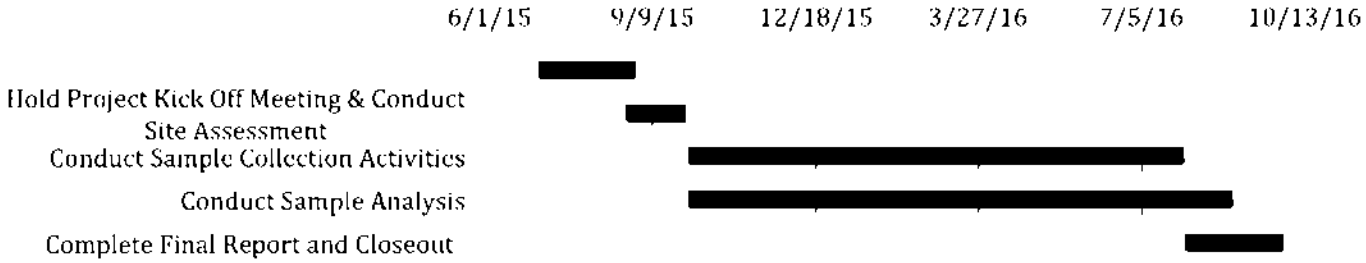
Phase 4: Sample screening and analysis.

Objective and Process: Screen samples using family-specific PCR primers at RITM, and ship aliquots to Duke NUS for deep sequencing approaches to capture the maximum divergent virus lineages to identify the virus strains circulating in the bats and possibilities for cross species and human infection.

Deliverable: Final report showing findings from the study that can be used to produce policies that will minimize the exposure of bat-borne viruses to livestock, as well as, during the collection and processing of bat catches as a food source, further reducing infectious disease threats.

To accomplish the above phases, Metabiota will work with Duke NUS and RITM to initiate and implement the 16.5-month research activity resulting in increased biosurveillance and security measures and a greater scientific understanding of the ecology of reservoir-borne viruses and their transmission to prevent zoonotic epidemics. This effort will support the global community's ability to implement preventative measures through biosurveillance, detection and response initiatives that mitigate the threat of these viruses causing disease outbreaks on a pandemic scale.

Timeline



Metabiota Key Personnel

Jeff Engle- Deputy Director

(b)(6) s the Deputy Director of the Academic Engagement Partnership (AEP) Program and an Internationally Certified Emergency Manager (CEM®) with 14 years of experience leading, managing, and consulting on the full spectrum of Counter Weapons of Mass Destruction (CWMD) operations and Chemical/Biological Defense programs, as well as research and development in support of joint task forces, special operations forces, other government agencies, and the Department of Defense on the strategic, operations, and tactical level (b)(6) s a driven leader with a proven track record of building value with partners through the identification of capability gaps, and the development and validation of effective solutions to the unique challenges faced when dealing with Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) threats. In addition, he is well versed at risk analysis and management, strategic planning, policy analysis and political engagement.

(b)(6) ogram Manager

v is the Southeast Asia and Middle East Regional Program Manager of the Academic Engagement Partnership (AEP) Program with over eight years experience as a global health project/program manager, with a focus in SE Asia regional activities, having lived and worked in Cambodia for four years supporting DoD efforts in the region. Since joining Metabiota in 2010, she has managed DTRA CBEP engagements in West and Central Africa, to include Ebola response efforts, as well as spending three years as the Program Manager on projects funded by USAID, AFHSC GEIS, BEP, NIH, USAMRIID, and HJF spanning all regions of Metabiota engagement.

(b)(6) Research and Data Analyst

(b)(6) oined Metabiota in May after completing her MPA in International Management. She has five years experience working in international development, ranging in scope from a macro-level international development bank to micro-level grass roots development work. She worked for two and a half years in rural Mozambique doing public health project management with the US Peace Corps, local community health clinics, and international donors.

(b)(6) Subject Matter Expert

(b)(6) joined Metabiota in March, and will be engaged as a Subject Matter Expert for this effort supporting programmatic and logistical requirements. She joins the team following completion of an MBA with experience in project controls, coordination, strong writing and editing skills and will bring a business approach to the project, keeping track of all deliverables, scheduling, and facilitating coordination with both internal and external stakeholders. In addition to her business expertise (b)(6) vorked as a Data Technician and Interviewer for NIH/CDC sponsored studies, while completing her undergraduate work at Duke.

(b)(6) DVM, MPH - Subject Matter Expert

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(b)(6) will join the project as a technical lead for BS&S and protocol review. He recently joined Metabiota from the CDC where he was assigned to the Outbreak Response and Prevention Branch (ORPB) as an Epidemic Intelligence Service Officer. He was the lead epidemiologist responsible for investigating multi-state foodborne, waterborne, and zoonotic enteric disease. He was also the Science Lead for the CDC Emergency Operations Center (EOC) team responsible for developing Ebola surveillance, preparedness and response protocols and training programs for unaffected African countries. (b)(6) previously worked for the Central Intelligence Agency as an Operations Officer in the National Clandestine Service.

(b)(6) Ph.D. – Subject Matter Expert

(b)(6) ceived his BS in Entomology and Zoology from the University of Wisconsin at Madison and his PhD in Parasitology with a focus on vector borne infectious diseases from Department of Tropical Medicine at Tulane University. He was the laboratory manager for a large mosquito control company and his doctoral research focused on the transmission cycles of arboviruses between birds and mosquitoes, especially regarding the relative contribution of these individuals towards viral amplification and dampening. As a Senior Research Fellow at Duke-NUS, his current work focuses on the ecology and evolution of novel and reemerging infectious diseases in different animal populations in Singapore. His aim is to understand how ecological and climatological variables impact the presence or absence of host, ectoparasites, and parasites in different habitats and if there is exchange or isolation of genes. His primary interest is on the viral ecology in the bats of Singapore. He also is the insectary manager and works on arbovirus dynamics in mosquitoes.

(b)(6) – Research Collaborator

(b)(6) primary training was in ecology and evolution at The University of Melbourne. He obtained his PhD at The University of Hong Kong in 2003, where he also undertook his post-doctoral training in the Department of Microbiology. (b)(6) is an authority on the evolutionary aspects of influenza virus biology, especially at the human-animal interface; he has provided seminal studies on H5N1 viruses as well as the pandemic viruses of 1918, 1957, 1968 and 2009. In 2007 (b)(6) was awarded a 7-year Career Development Award to continue his work on influenza as part of the NIAID/NIH Centers of Excellence for Influenza Research and Surveillance. His research in the Laboratory of Virus Evolution integrates ideas from a number of different fields including evolutionary genetics, virology, ecology, and infectious disease epidemiology. His research is directed at efforts to better understand viral disease ecosystems in Asia, specifically the animal-human interface, and to support rational implementation of disease control and intervention strategies. He conducts human and animal disease surveillance, isolates and characterizes pathogens (genetic and phenotypic), and generates hypotheses that to test in the lab. He is primarily interested in the roles played by mutation, natural selection, recombination/reassortment and host immune response on virus diversity within an individual, during transmission within a population and during inter-species transmission between hosts.

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Cost Management

The Metabiota team and all partners will maintain an acute focus on cost management to ensure that the study is delivered at a reasonable cost to the Government. Our team will provide full oversight of Duke NUS and RITM to ensure accurate and responsive financial reporting and will facilitate cost savings to the Government wherever possible. Metabiota will follow all procurement and travel regulations, ensuring the best price is secured while maintaining product integrity.

Budget Narrative

Period of Performance

The Period of Performance for this effort is June 1, 2015 to September 30, 2016.

Labor

Costs for direct labor to support this activity is required for the following personnel:

Metabiota Program Manager, (b)(6), to oversee and execute the project to include management of deliverables, logistics, management of project personnel, tracking of project requirements, and implementation.

Metabiota Subject Matter Expert (SME) (b)(6) to provide overall expertise in project coordination in direct support of the program manager, to include tracking of deliverables, project schedules, sub-contracted SMEs, and local collaborators facilitating execution of the research project. She will assist in coordination of the research project until an identified SME can be hired to support coordination of this effort through the duration of the project at .5 FTE. (b)(6) ill provide the necessary support to ensure project kickoff and execution and a smooth transition with the new hire to facilitate this engagement. Once they are onboard she will maintain visibility across the program and provide support at a lower LOE.

Metabiota Subject Matter Expert (SME), (b)(6), will be engaged to provide expertise in BS&S review, protocol review, and scientific collaboration in support of technical execution of the project providing general oversight and engagement with collaborating research partners building local capacity and ensuring scientific integrity across the project.

Metabiota Research and Data Analysts (b)(6) will be engaged to provide administrative, scientific and technical support to the project, integrating with both Duke NUS and RITM researchers to ensure scientific rigor and project support to facilitate this engagement is maintained throughout the duration of the study.

Duke NUS Research and Data Analyst will be engaged to support the laboratory testing and bat trapping in conjunction with the RITM team in supporting this research. This individual will

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assist in training RITM field teams, trapping bats, field collection and processing of samples and setting up diagnostic assays. They will perform basic laboratory techniques to include nucleic acid extraction, PCR, and basic sequence analysis.

RITM Supervisor, (b)(6) will maintain oversight of all implemented activities performed by RITM as the most senior researcher for this engagement. He will participate in project management and scientific implementation requirements and activities in conjunction with Metabiota personnel and Duke NUS RCs, to include facilitating in-country agreements and ethical approvals.

RITM Researchers, will provide project oversight and will participate in the collection of bat samples in conjunction with a team of local ecologists, transport the samples to RITM, and process and screen the samples for evidence of paramyxoviruses. In addition, they will prepare the laboratory and field reports and will process all data and analysis with support from senior researchers working on this project.

Additional costs for direct labor supporting the Deputy Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

In addition, labor costs are not being requested for RCs from Duke NUS, who will be providing research collaboration to support implementation of the research project including oversight of sampling, analysis, and data management.

Materials

Materials and supplies are required to support the implementation of research activities for this project. Materials include bat trapping equipment, field supplies for sample dissection and collection, and laboratory materials to include extraction kits, PCR reagents, Elisa plates, and sequencing costs required for technical implementation. CLS will procure and ship all identified supplies that will not be purchased in country, directly by Metabiota, or Duke NUS to support laboratory and field training operations at the laboratory in Singapore.

Publication costs are requested to support the submission of abstracts and other publications generated from this research activity. All documents will be pre-approved by the PAO.

Communication costs and video conferencing are requested to support routine communication with project personnel based internationally, as well as during international travel to India and Singapore in support of project implementation.

Internet and cloud-based document management costs are requested to support routine communications and management of project files in support of this engagement.

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RITM will provide research services to implement this study. Research services will include trapping, sample collection, transport and analysis at RITM, Manila.

RITM will provide ecology services to support bat trapping, handling and sampling. Services will be provided for a six-month period during which sample collection will be ongoing.

Other Direct Costs

Per contract guidelines Defense Base Act (DBA) insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for Duke NUS and RITM personnel for the period of performance for this engagement. In addition, DBA insurance will be secured for Metabiota personnel traveling to Singapore and the Philippines in support of this activity.

SOS Insurance is required for Metabiota personnel traveling to Singapore and Philippines to support this research activity, ensuring they are covered for emergency and evacuation services if necessary.

Subcontracts

A Subcontract will be issued to Duke NUS and RITM to support their labor requirements on this engagement, as well as in-country materials, required for support of this project. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested for Metabiota and RITM personnel to travel to Singapore to conduct the project kickoff meeting with Duke NUS at the start of this engagement to support protocol review, logistical requirements, contract implementation, project-specific training, ensuring the study is outlined and established with all teams prior to initiation of sampling and research activities.

Travel is also requested to support Metabiota and Duke NUS personnel to travel to Manila to support project implementation with RITM researchers to include laboratory and field oversight during the first events, with follow on by the Duke NUS researcher to ensure the study is moving forward smoothly and according to protocol. Travel support for Duke NUS personnel not requesting labor costs, will be covered by CLS. In addition, travel is required for RITM researchers to travel in country to implement sampling activities at the surveillance sites. This travel will be covered by CLS.

Travel is requested for (b)(6) to travel from California to DC in support of overall program management and meetings with AEP and CBEP regional leadership to effectively manage the research activity through in-person meetings and coordinated efforts.

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Conclusion

The diversity of pathogens of potential public health importance discovered in or associated with bats has increased markedly. Yet the significance of these pathogens remains largely unknown. This lack of information on the basic biology of bat diseases in SE Asia is of great concern. The emergence of Ebola Reston virus in the Philippines demonstrates how; EIDs have no geographic borders, anthropogenic landscape changes can influence emergence, increased interactions between humans and bats lead to opportunities for transmission, and virus in reservoirs displaying no apparent illness can infect incidental hosts such as livestock and humans. The detection of Nipah virus, during the 2014 outbreak, shows the need for increased biosurveillance, detection and response activities to support, address and prevent this potential emerging disease threat. and how critical this research is to building local capacity and regional scientific engagement to support risk mitigation through greater understanding of the disease landscape of the region.

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP PACOM in the implementation of the study. Metabiota will ensure, through strong project management and risk mitigation, that the research will be executed in an efficient and timely manner. delivering a top quality study designed to support enhanced biosurveillance and biosafety efforts in the region.

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Metabiota's Technical and Cost Proposal

"DTRA/CBEP Implementation of a Regional Landscape Analysis in the Southeast Asia Region."

Technical Direction Number: TD-007
Contract Number: HDTRA1-14-C-0104
CAGE Code: 56SP4
DUNS number: 828131156

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Team Metabiota Overview

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Metabiota is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in 20 countries and offices in San Francisco, Washington, China, Canada, and Sierra Leone.

Metabiota currently supports a number of Cooperative Biological Engagement Program (CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. Metabiota's mission aligns well with CBEP; the entire Metabiota team is focused on supporting our USG Partners in reducing the risk of biological threats worldwide, and employs a collaborative and agile approach to biological risk reduction.

To ensure a successful program, Metabiota, in coordination with CBEP Regional Leadership and in-country partners, has built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGOs) whose respective aims could impact CBEP objectives.

Project Overview

Introduction

Through AEP Technical Direction 007, DTRA CBEP USPACOM Regional Leadership tasked the Metabiota team with creating a narrative, needs-based analysis document to DTRA CBEP and PACOM leadership that will capture regional requirements for risk reduction leading to the development of realistic and achievable end-states for the region. The desired analysis is multi-faceted and will include a characterization of the disease landscape within the region, factors that increase the likelihood and severity of disease outbreaks and biological threats, and current regional capacity the address biological threats including stakeholders, networks and initiatives operating within the region.

The Disease Landscape Section will detail current biological threats present in the region and characterize the risk of accidental, naturally occurring, and intentional disease outbreaks and

biological events by pathogen. The Regional Capacity Section will include organic regional capabilities as well as an analysis of stakeholders, networks and initiatives operating within the region. This will allow for detailed analysis of the gaps present, as well as an analysis of the effectiveness of different approaches taken to address the biological threat spectrum. Ultimately, the intent of this endeavor is to assist CBEP in developing an informed, targeted and goal-oriented 5+ year strategic plan with measurable and achievable results.

Understanding

The Metabiota team understands that the US Department of Defense (DoD) initiated CBEP through DTRA in order to: secure and consolidate select agents; enhance Biosafety and Biosecurity (BS&S) standards; and strengthen the USPACOM region's ability to detect, diagnose, survey, and report emerging and re-emerging diseases of international security concern and that CBEP accomplishes these objectives in accordance with the World Health Organization (WHO) International Health Regulations (IHR) and World Health Organization for Animal Health Guidelines (OIE). The team further recognizes that to achieve its mission, CBEP works collaboratively with partner nations, U.S. Government agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health, promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner. Through the Academic Engagement Partnership (AEP) Program, Metabiota aims to support the CBEP mission of reducing the potential impact of biological threats through enhanced biological safety and security, awareness of biological risks, and knowledge related to biological pathogens.

In support of this approach, the Metabiota team intends to develop a high-value regional landscape analysis that will support strategic CBEP objectives by informing the regional engagement strategy with the aim of fostering collaboration on topics critical to biological threat reduction, enhancing the regional capacity to perform biorisk management and mitigate the threat of biological events. The team's on-the-ground experience and decades of expertise makes us well positioned to support the execution of this analysis and all of the associated activities as well as scientific engagement in the USPACOM's area of responsibility.

Purpose

The CBEP USPACOM Regional Strategy is being developed to address existing challenges faced within the region and support Country Managers (CMs) in the execution of their five+ year strategic plans. The recent strategic planning efforts within CBEP (multi-year plans, metrics, etc.) require a broader approach to regional analysis and calls for the development of a standardized methodology for information gathering and needs analysis that can support the validation of requirements and enhance the integration of country specific strategies.

To achieve this purpose, CBEP endeavors to develop a five+ year strategic regional plan that will guide DTRA's decision-making and engagements at a regional level. This plan includes but is not limited to: focusing on reducing biological threats, enhancing the transparency and

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confidence-building between DTRA PACOM and host countries, engaging scientists through cooperative pursuits, and enhancing host-nation capacity in disease detection and reporting, while adhering to international codes of security and safety to ultimately provide a mechanism for sustained engagement.

To accomplish this purpose, DTRA CBEP, through the Academic Engagement Partnership Program (AEP), will engage Metabiota Inc. and its cadre of Subject Matter Experts (SMEs) to provide a regional landscape analysis that will support the development of the CBEP PACOM engagement strategy.

Objectives

Through the collaborative engagement process with Metabiota and the development of the regional landscape analysis, DTRA CBEP will be able to:

- Characterize the region based on the disease landscape, organic regional capabilities, and external factors that impact CBEP objectives;
- Identify needs and areas of overlap with other stakeholders, providing avenues for successful engagement;
- Support regional leadership in providing overarching strategic guidance and goals to CBEP PACOM Country Managers in the development of their country engagement strategies and inform the development of a regional engagement strategy.

Threat Reduction Outcomes

Metabiota will provide a narrative, needs-based analysis document to DTRA CBEP leadership that will capture regional requirements for risk reduction leading to the development of realistic, measurable, and achievable end-states for the region. Additionally, the analysis will promote a global network of research collaborations and develop a sustainable infrastructure for advancing scientific research, including the early detection of emergent threats.

Increasing knowledge through conducting a regional analysis is critical to capacity building efforts across the PACOM region and supports the early detection and response to emerging events, thus safeguarding the world from biological threats. Without completion of the analysis, the region is subject to the following identified risks:

- Incomplete country and regional coverage of disease detection, reporting and response systems;
- Increased security threats due to improper handling of pathogens of security concern;
- Limited understanding of pathogens of concern circulating in the region;
- In-country and regional stakeholders with varying agendas, priorities, and goals.

The completion of the regional analysis will mitigate the identified risk factors by:

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- Providing a roadmap that will guide regional engagement and develop forward operating presence in the region to facilitate successful, multi-year engagement;
- Informing planning and regional decision-making strategy that supports the CBEP mission and desired end-states;
- Validating the impact of a comprehensive strategy based on an overview of the arena, regional capabilities, the engagement and diseases landscape, identified gaps and areas of synchronicity to support the CBEP mission;
- Supporting a unified and streamlined approach across all countries and bolstering the effectiveness of CBEP Country Managers by providing them with an additional tool to inform their planning efforts, while ensuring roll-up to the overarching vision and mission of CBEP;
- Supporting informed action and engagement that will define CBEP's agenda in the region allowing for clear communication and partnerships with other USG agencies and external stakeholders;
- Optimizing outcomes with focus and defined thresholds for achievement;
- Increasing scientific capabilities through research collaboration and fostering an environment of scientific partnership.

Risk Management

No.	Risk Factor/Rationale	Impact	Likelihood	Severity	Current Risk Level	Mitigation	Likelihood	Consequence	Residual Risk
					(b)(4); (b)(6)				(b)(4); (b)(6)
1	No forward presence in countries-difficult to achieve buy in and get access	Schedule and Performance	5	5		Metabiota will use personnel with local experience and subject matter expertise, as well as in country regional partners	2	2	
2	Incomplete regional coverage-information is fragmented	Performance	5	5		Metabiota will work with stakeholders and provide a broader assessment of the region, in order to facilitate capturing hazards and capabilities, as well as opportunities to engage	2	2	
3	Incomplete pathogen coverage	Performance	5	5		The Metabiota team will engage SMEs from across the scientific community to capture a larger disease landscape that considers threats, as well as opportunities	2	2	
4	Multiple country managers with different plans and objectives	Schedule and Performance	3	3	Medium	The team will engage country managers as a group and individually, to ensure that this assessment process assists them with their needs, as well as captures the data they collect in their country assessments to drive final results	2	1	

										(b)(4); (b)(6)
5	Embassy health working group agendas	Schedule and Performance	3	3	Medium	Development of the assessment, targeted communication strategies and clear engagement activities will reduce barriers faced through competing agendas	2	2		
6	Massive amounts of data to sift through	Cost, Schedule & Performance	4	4	(b)(4); (b)(6)	Metabiota will engage research analysts and SMEs to compile, coordinate and guide data collection process to include performing routine focused analysis of the data and impact to ensure it is delivered in a useable format to inform the strategic plan	2	1		
7	Broad scope of analysis	Schedule and Performance	3	5		Metabiota will employ a feedback loop and routine course correction activities through engagement with CBEP PACOM leadership to ensure Scope stays focused on CBEP objectives	2	1		
8	Short suspense on completing a useable document	Schedule and Performance	5	4		Metabiota will employ rigor around process with routine scheduling & deliverable to maintain target completion deadlines	2	1		

Management Approach

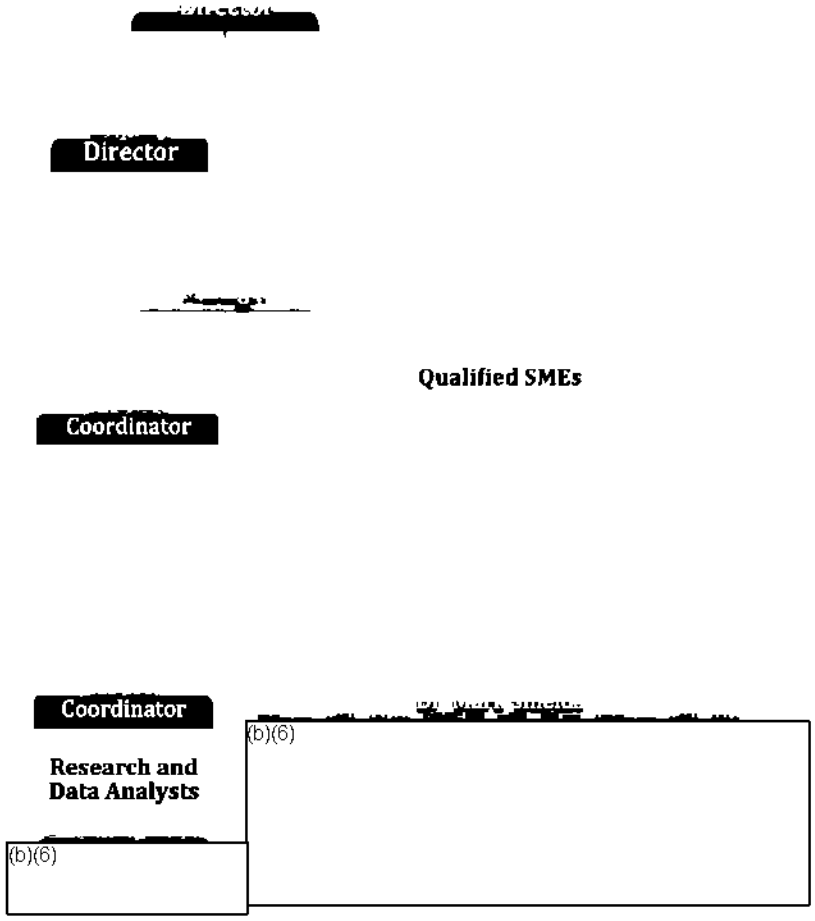
Introduction

Metabiota will employ its existing organizational leadership to interface with Regional Leads and Country Managers as needed to direct the operational and administrative support required to ensure implementation of the Regional Landscape Analysis. Our Southeast Asia Program Manager (b)(6) will oversee operations with the support of a Project Coordinator, Travel Coordinator, Research and Data Analysts and Subject Matter Experts to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Project Team Structure

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the Program Manager, Project Coordinator, Travel Coordinator, Research and Data Analysts, and Subject Matter Experts that will be tasked with specific assignments to

support the development and implementation of the regional landscape analysis based on their administrative and scientific expertise. This team of experts will ensure the overall project management and tasks associated with the analysis are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.



Planning and Design

In communication and coordination with CBEP PACOM leadership, Metabiota will continue to develop the analysis-based strategy development framework required to complete the regional landscape analysis. The process involved in completing the analysis will include working group sessions where CBEP and Metabiota experts will continue to collaboratively build on and revise the previously developed framework and ensure that the collected research adequately addresses and assesses the comprehensive disease and engagement landscape of the region.

To complete the analysis, Metabiota will continue to engage its cadre of SMEs to populate the tool with relevant information. In addition, the team will continue to further enhance and refine questions and context required to address the complete regional picture with CBEP goals in

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mind. Throughout the research and revision process, Metabiota will engage CBEP for review and approval of the design, structure, and content prior to moving forward.

To complete the analysis, Metabiota will engage:
Research and Data Analysts- to conduct basic research using readily available, open-source information to inform the regional analysis.
SMEs- to provide their regional expertise in the form of narratives and graphics to build upon the basic research component and already included information. Provide QAQC measures to collected information validating results.
Internal Collaborators – Metabiota SMEs working outside of the scope of the PACOM project and have regional expertise within the region will be utilized to further elaborate on the landscape and engagements.

Metabiota will follow up this engagement by ground-truthing facts gathered through basic research and engagement of technical SMEs to validate the data and expand on the information received through this process. In addition, Metabiota will maintain routine communication with CBEP leadership and CMs to coordinate external actions targeting areas of overlap to limit redundancy of efforts, and identify opportunities for synergistic engagement.

Execution
The core project management team will maintain oversight and implementation of the project at all times and will ensure rapid execution of the regional landscape analysis, tracking objectives to ensure the project stays on schedule to complete the training exercises. The project will be managed according to the phased implementation plan and will be course corrected as needed to ensure target end goals are reached. The following tools will be used to guarantee the project schedule will be maintained:

Project Administration:
1. Weekly team meetings and conference calls will be held to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Coordinator and will include the PM, SMEs, Research and Data Analysts, and AEP leadership, as needed based on the requirements and stage of implementation.
2. Routine communication to include emails, conference calls, and in-person meetings will be held with CBEP Regional Leadership and Metabiota to provide status updates and ensure course correction through the assessment.

Project Reporting:
1. Weekly status reports will be provided by the PM to senior MB leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction, as needed to ensure training goals are met.
2. Metabiota will provide weekly status reports to CBEP regional leadership to maintain visibility on project achievements and in support of routine in-person meetings.

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Monitoring and Controlling

1. Routine risk assessment will be performed internally among the MB project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with CBEP Regional Leadership to ensure the project remains on track and is implemented according to standard.
3. Routine oversight and coordination will be performed to ensure successful execution of the regional analysis. Monitoring will include both administrative and fiscal oversight.



Completion

Maintaining a focused project schedule and achieving targeted objectives through the continued coordination of routine meetings, working groups, and open communication with CBEP Regional Leadership, Metabiota will drive the project to completion by 31 October 2015, with the option to build out and populate a regional disease landscape and engagement dashboard. Following completion of deliverables, review, final validation, a back-and-forth dialogue

with CBEP Regional Leadership, and presentation of the analysis, Metabiota will provide after-action reports, debriefings, and follow-on meetings to allow for lessons learned and continuation of solid execution and implementation of activities. Metabiota believes that the experience and management it will bring to this project as well as the continued expertise and support provided by the CBEP team will guarantee success.

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Technical Approach

Introduction

Given that DTRA CBEPs mission is to reduce the risk of biological threats, Metabiota will employ a risk-based approach to support CBEP PACOM in the development of the multi-year engagement strategy. The building blocks of the risk-based landscape analysis are the pathogens of concern, the factors that impact the likelihood and severity of an events occurrence, and the policies, practices, stakeholders, networks, and initiatives that aim to mitigate the biological threats present. In order to inform CBEP PACOMs engagement strategy, Metabiota's approach is designed to fully elucidate the risks present, and show areas where CBEP can engage at the lowest cost to achieve the highest impact. Our approach parses the biological threat environment into potential naturally occurring, accidental, and intentional biological events. By doing so, it allows for the characterization of the event by specific factors that impact the likelihood and severity of that specific events occurrence, which in combination with the identification of priority pathogens enables us to identify the baseline risk present for the region of specific biological event scenarios. With the establishment of baseline risk, we are then able to identify and characterize the capacity to prevent, prepare for, respond to, or recover from the specific threat scenarios by analyzing the stakeholders, networks, initiatives, and organic regional capabilities. Once that is done, it allows us to graphically depict the residual risk, as well as identify gaps that DTRA CBEP can target within the region and characterize potential approaches to fill the gaps.

Metabiota will, in coordination with DTRA CBEP PACOM, develop and execute a targeted, analysis-based strategy development framework to collect the regionally relevant information and inform strategic planning.

The analysis-based strategy framework will:

- Facilitate an assessment that captures regional data and analyses to build a 5+ year roadmap/ strategic plan for CBEP engagement
- Address current capacities, capabilities, and gaps in partner country bio-surveillance and biosafety and security systems
- Collect sufficient, usable data to internally identify the appropriate end-states
    - End state: an agreement between CBEP and participating country resulting in "buy-in" for future engagement
- Be a tool to map out and inform the development of consistent, over-arching regional guidance to support country engagement activities
- Incorporate an iterative process between Metabiota and DTRA CBEP, with opportunities for feedback and course-correction
- Be adaptable and scalable to address other regional DTRA needs, or encompass new information as it arises, while achieving the end-state of informing a strategic plan

The framework will not:

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- Be an implementation plan, but will inform the DTRA CBEP developed strategic and implementation plan
- Will not duplicate or be redundant to the country assessment tool
- Be an accumulation of country baseline assessments
- It will not dive deep into the gaps and linkages in BS&S, BSV and CBR capabilities across partner nations in the PACOM AOR.

The Metabiota team will perform the regional landscape analysis through a collaborative process that incorporates expertise from academic leaders, other government agencies, international partners, and both regional DTRA CBEP leadership and CMs, and is facilitated through the Academic Engagement Partnership (AEP) Program contract.

Communications Protocols

Metabiota will maintain open communications with CBEP to ensure full visibility on the status and process of completing the analysis. In order to collect the necessary information for completing the Regional Landscape Analysis report, the DTRA CBEP program office will facilitate communications with external stakeholders and participate in communications internal to Metabiota with stakeholders that spend much of their time in support of in-country programs with USAID, DHAPP, and other entities. Metabiota will inform the appropriate DTRA CM and Regional Leads of every intended conversation with U.S. Embassies, other U.S. Government organizations, country representatives, ministries, and other stakeholders no later than five business days prior to the intended date. Metabiota will develop and submit meeting agendas no later than three business days prior to meetings. As with all AEP communication, Metabiota will record meeting minutes for each communication and make them available to DTRA as part of the Monthly Report, if required. Additionally, Metabiota will include a DTRA CBEP representative on all communication to external stakeholders.

Metabiota will used a tiered engagement approach to seek out information via teleconference and in-person interviews (if appropriate) to fill gaps identified in the open source research conducted by Metabiota SMEs. As specific gaps are identified, Metabiota will review the source list of POCs and determine engagement based on area of expertise to solicit targeted information.

Metabiota will follow the below engagement protocol to ascertain the necessary information. If information can be gained by interviewing Tier 1 POCs, Tiers 2-4 will not be engaged. If Tier 1 POCs cannot supply all the needed information, Tier 2 POCs will be contacted, and so on down the list. Metabiota will attempt to work through internal mechanisms first to maintain targeted external engagements, and will only contact external POCs as critically necessary.

Metabiota will engage SMEs in the following order:

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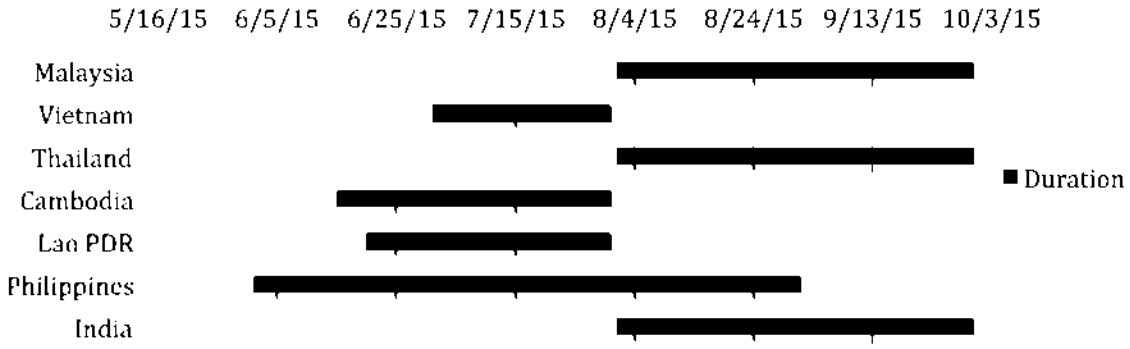
1. **Internal Metabiota SMEs (not participating in the PACOM assessment)**: Metabiota SMEs not actively participating in completing the assessment will be interviewed based on their regional expertise and engagement (ex. (b)(6) Director of PREDICT and (b)(6) Director of VIZIONS).
2. **Internal DTRA CBEP SMEs (Country Managers – utilizing Country Tool or coordinated interview engagement)**: Coordinated engagement with Country Managers using country tool or collaborative interview process during completion of country assessment, dependent on timing and pre-approved communication protocol.
3. **Consortium Partners and Regional Collaborators**: Metabiota will interview consortium partners and collaborators based in the US and abroad with active regional experience and engagements (ex. EcoHealth Alliance, UC Davis).
4. **Country-Specific Collaborators**: Metabiota will interview country-specific partners dependent on specific information that needs to be garnered to answer regional questions following the above engagements. Metabiota will coordinate with CMs to identify and notify them, per communication protocols, individuals for engagement in specific countries. Metabiota will coordinate with Subcontractors completing country assessments, where appropriate to collaborate on interviews to reduce duplication and the need to reach out to other in-country partners. Where that is not possible, Metabiota will submit a list of identified individuals and a call schedule to the CM and Regional Lead for approval prior to engagement.

Our general timeline for country engagement follows a staggered approach, allowing for time for CMs to socialize with in-country partners and review proposed questions for POCs, as well as allow Metabiota personnel to work with Country Managers to integrate Country assessments, coordinate interviews, as appropriate and sensitize the regional analysis to ensure proper engagement across the region.



Phases of Technical Approach

Phase 1: Continued Research and Active Engagement – Input from SMEs and Internal Partners
Phase 2: Validate and Expand Analysis
Phase 3: Complete Needs Assessment and Analysis, QA/QC and Review
Phase 4: Post-Analysis: Internal Briefing, CM Briefing, Regional Leads Briefing

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Phase 5(Optional): Populate Dashboard Tool

There will be five phases to the technical approach. In Phase One, Metabiota will continue to conduct open-access research using published literature, stakeholder websites, and both expertise from Metabiota technical SMEs and partners in the US to fill gaps and drive the completion of the analysis. SMEs will be engaged on an as-needed basis to fill gaps in collected information related to their areas of expertise. Metabiota's SMEs represent all related disciplines and have decades of expertise in areas such as public health, epidemiology, virology, microbiology, cultural anthropology, international affairs, medicine, disaster preparedness/response, veterinary medicine, infectious diseases, and health informatics, among others. We plan to utilize this expertise to engage SMEs based on their level of regional expertise.

In Phase Two of the project, Metabiota will validate and expand the analysis to engage CBEP SMEs, regional collaborators, and country-specific collaborators to further enhance specific components of the analysis and include expertise and knowledge not available through open-source networks. The team will coordinate with CMs to share information and avoid duplication of efforts as respective country assessments are completed. Metabiota will work to address any country-specific concerns in the analysis, as requested by individual CMs. The team will provide CBEP with a list of potential POCs, Engagement Plan, questions to be asked/gaps to be addressed with individual POCs, allowing for time for CBEP to socialize with in-country POCs as needed. Metabiota will work with CMs to ensure that interview questions are consolidated, so that interviews can be as efficient as possible. Additionally, Metabiota will ensure that CBEP CMs and Regional Leads have full visibility on all potential in-country contacts, topics to be discussed, and availability to be present for interviews as desired. Once CBEP has granted approval to move forward and POC interviews are conducted, Metabiota will provide interview notes to CMs and Regional Leads.

Phase Three of the project will consist of reviews of gathered information to ensure accuracy and completeness, and confirm that information meets quality standards. Metabiota will engage SMEs, Research and Data Analysts, graphics support personnel, and leadership teams to conduct multiple review and editing cycles of the analysis in order to ensure accuracy and completeness of the information gathered. Additionally, the team will conduct a gap analysis to collect information that could not be confidently assessed during the previous phases.

Phase Four of the project will consist of a post-analysis of the assessment with in-person briefings provided to CBEP CM and Regional Leads, and other identified stakeholders as directed by CBEP.

In Phase Five of the project, Metabiota will create a dashboard tool that will provide CBEP with data on disease outbreaks and spread presented in a powerful and insightful way. Metabiota's core competencies of data analysis visualization and risk assessment and mitigation strategies will drive the establishment of a tool for CBEP's continued use.

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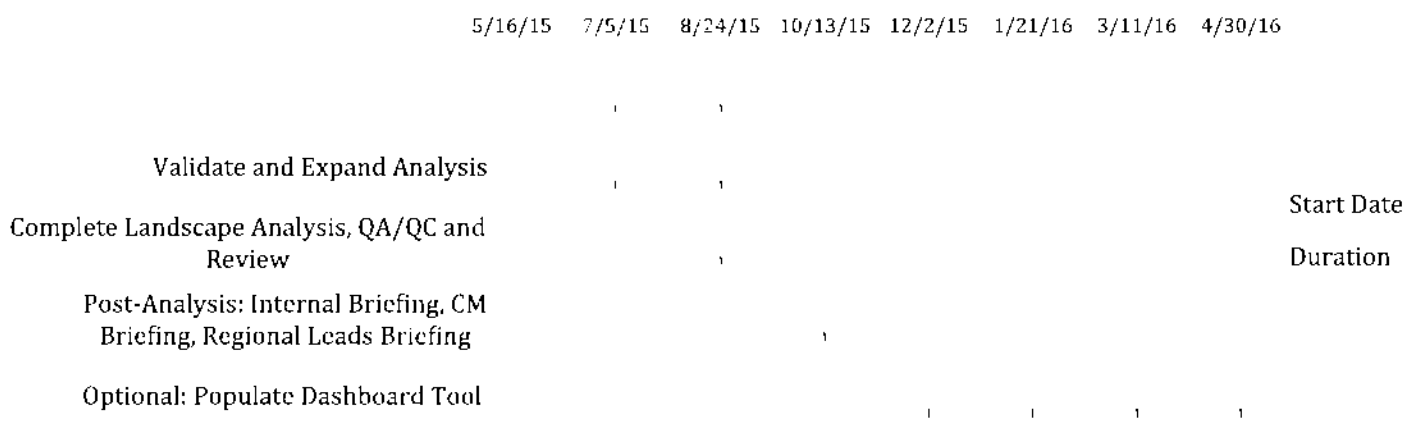
Timeline



Phase 1 – Continued Research and Active Engagement – Input from SMEs and Internal Partners (16 May – 31 August)

Objective: Completion of the targeted, informed baseline regional analysis identifying regional capabilities, capacities, enhancements, and gaps in regional BS&S systems to inform the CBEP strategy, with a focus on risk analysis and mitigation.

Process: During this phase, Metabiota will conduct open-access research using published literature, stakeholder websites, and both expertise from Metabiota technical SMEs and partners in the US to continue compiling and completing the regional analysis. Metabiota will hold regular working groups with CBEP Regional Leads to solicit feedback and review of the analysis and to course correct as needed.

Deliverables: Submission of a working draft of the analysis as well as regular document section reviews.

Phase 2 – Validate & Expand Analysis (8 June – 31 August)

Objective: Engage DTRA CBEP SMEs, Regional Collaborators, and Country-Specific Collaborators to further enhance specific components of the analysis and include expertise and knowledge not available through open-source networks.

Process: Metabiota will coordinate engagement and cultivate synergies with Country Managers during completion of ongoing in-country assessments, depending on timing and pre-approved communication protocol. Upon CBEP approval, Metabiota will engage consortium partners and collaborators based in the US and abroad with active regional experience and engagements (ex. EcoHealth Alliance and UC Davis). Metabiota will identify gaps in available information and coordinate with CBEP Leads to plan, review and approve any and all communication with in-country collaborators. Additionally, Metabiota will conduct CBEP-desired ground-truthing

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exercises to include working groups, symposiums, table-top exercises, and site visits with in-country partners, technical SMEs, DTRA CMs, and other key stakeholders to validate and provide deeper insight/guidance for completion of the tool.

Deliverables:

- Submission of a working draft of the Engagement Protocol for review as well as regular document section reviews.

Phase 3 – Complete Needs Assessment & Analysis, QA/QC and Review (15 July – 30 September)

Objective: Review gathered information for accuracy and completeness, and ensure that information meets quality standards. Edit for content, clarity, and style.

Process: Metabiota will engage SMEs, Research and Data Analysts, graphics support personnel, and leadership teams to conduct multiple review and editing cycles of the analysis in order to ensure accuracy and completeness of the information gathered. Additionally, information that cannot be confidently verified will be provided to CBEP. Metabiota will ensure that the deliverable format meets CBEP needs and that all relevant information is captured.

Deliverables:

- Complete Analysis Document and supporting documents to inform CBEP's strategic objectives.

Phase 4 – Post Analysis: Internal Briefing, CM Briefing, Regional Leads Briefing (1 – 31 October)

Objective: Complete regional landscape analysis and present it to CBEP Regional Leadership. Present analysis and potential for follow on in briefings to CM and Regional leadership, and others, as identified and requested by CBEP.

Process: Metabiota will complete the regional analysis, and present it to CBEP leadership, personnel and other identified stakeholders, as directed by CBEP via briefings, and in-person presentations.

Deliverables:

- Briefings to CBEP team members.

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Phase 5 (Optional) – Populate & Develop Dashboard Tool (1 November 2015 – 15 May 2016)

Objective: Population of Interactive Layered Dashboard Tool

Process: Metabiota will create a powerful, layered dashboard tool that will provide CBEP with data on disease outbreaks and spread presented in a powerful and insightful way. Being able to better visualize epidemic and biological threat risk in the PACOM region will provide CBEP with unparalleled outbreak surveillance and risk analysis capabilities, will enable CBEP to more effectively and efficiently respond to regional disease risks, and will facilitate a more impactful strategic engagement plan in upcoming years.

Deliverables:

- Provide CBEP with a populated dashboard tool that contains all relevant information.

Metabiota Key Personnel

(b)(6) Deputy Director

(b)(6) s the Deputy Director of the Academic Engagement Partnership (AEP) Program and an Internationally Certified Emergency Manager (CEM®) with 14 years of experience leading, managing, and consulting on the full spectrum of Counter Weapons of Mass Destruction (CWMD) operations and Chemical Biological Defense programs, as well as research and development in support of joint task forces, special operations forces, other government agencies, and the Department of Defense on the strategic, operations, and tactical level. (b)(6) s a driven leader with a proven track record of building value with partners through the identification of capability gaps, and the development and validation of effective solutions

to the unique challenges faced when dealing with Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) threats. In addition, he is well versed at risk analysis and management, strategic planning, policy analysis and political engagement.

(b)(6) - Southeast Asia Regional Program Manager

Ms (b)(6) the Southeast Asia Regional Program Manager of the Academic Engagement Partnership (AEP) Program with over eight years experience as a global health project / program manager, with a focus in SE Asia regional activities, having lived and worked in Cambodia for four years supporting DoD efforts in the region. Since joining Metabiota in 2010, she has managed DTRA CBEP engagements in West and Central Africa, to include Ebola response efforts, as well as spending three years as the Program Manager on projects funded by USAID, AFHSC GEIS, BEP, NIH, USAMRIID, and HJF spanning all regions of Metabiota engagement.

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(b)(6) Project Coordinator

(b)(6) will be engaged as the Project Coordinator for this effort. She joins the team following completion of an MBA with experience in project controls, coordination, strong writing and editing skills and will bring a business approach to the project, keeping track of all deliverables, scheduling, and facilitating coordination with both internal and external stakeholders. In addition to her business expertise (b)(6) worked as a Data Technician and Interviewer for NIH/CDC sponsored studies, while completing her undergraduate work at Duke.

Subject Matter Experts

(b)(6) PhD- Senior Scientist

(b)(6) joined Metabiota in April 2013 as an expert on Emerging Diseases and Biosecurity. As a medical researcher and formerly Research Director for the French Institute of Research for Development (IRD, Marseille, France), he has spent his career working in and for developing countries of South America, Africa and Asia (1979-2012). His areas of focus include viral disease epidemiology, virus ecology, arboviruses, viral hemorrhagic fevers and understanding fundamentals of disease emergence. Since the late 70s, he has led international teams with partner institutions in developing countries, as well as teams of virologists at the International Network of the Institute Pasteur (Dakar, Senegal; Bangui, Central African Republic) (b)(6) worked for several years as a guest researcher at the Special Pathogen Branch of the Centers for Disease Control and Prevention (CDC) in Atlanta (Georgia, USA), as a visiting scientist at the Arbovirus Branch of the CDC in Fort Collins, and as a visiting professor of Epidemiology and Public Health at the Yale School of Medicine (New England, USA). In addition, (b)(6) has worked to enhance high security laboratory practices and research (CDC, Yale), and on the early development of geographical information systems

applied to Public Health and Infectious Diseases (Yale). From 1997 to 2007, he was invited to Mahidol University in Thailand as a visiting professor of Microbiology, where he founded the Research Center for Emerging Viral Diseases and developed a Technical Platform for the study of Emerging Vector-Borne Diseases (b)(6) has developed several innovative concepts including the evolution of viruses on the geological time scale and co-evolution as a general mode of evolution, among others.

(b)(6) MD, MPH, MS, FACPM – Senior Scientist

(b)(6) eceived his BA in Biology at Earlham College, his MD at Michigan State University, his MPH at Harvard University, and his MS in Biostatistics at Harvard University. He has most recently served as a medical epidemiologist and Health Informatics Branch Chief for the CDC's Global Aids Program (GAP) at the American Embassy, Lusaka, Zambia. As the Health Informatics Branch Chie (b)(6) directed the initiation, funds procurement, staffing, design, development, and national deployment of the SmartCare Electronic Health

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Record (EHR) System for a decade, growing to service over 770 facilities and more than 1,000,000 persons (>500,000 HIV positive), and collaborating with over 20 implementing partners.

(b)(6) previously worked as a Medical Epidemiologist for the Centers for Disease Control and Prevention in Zambia covering three areas: surveillance activities including continued monitoring of the HIV epidemic in Zambia through HIV & Syphilis Antenatal Clinic Sentinel Surveillance (ANC SS) for 2006 and 2008, and the newer concerns of HIV drug resistance monitoring, drug resistant tuberculosis, and avian influenza; monitoring and evaluation (M&E) of PEPFAR program activities as part of a rapidly expanding CDC-Zambia budget (from $3M to $100M in five years); and managing the Information and Communications Technology (ICT) systems infrastructures for rapidly growing staff, nationally distributed offices, and new USG WAN security certification requirements.

(b)(6) PhD

(b)(6) earned his Ph.D. in the field of molecular genetics at Rice University, before taking the role of Director of Research at mAbGen. There, he designed and built the prototype of their technology platform, a novel device to accelerate early stage drug discovery. The team's work spanned many scientific fields and resulted in a peer-reviewed scientific paper. In conjunction with the CEO (b)(6) set the company's strategic direction, evaluated competing technologies, and assessed larger biotechnology and pharmaceutical companies as potential strategic partners or acquirers for their technology. He also served as an Associate at Booz Allen Hamilton, where he provided strategic, policy, and technical advice toward reducing the threat of global disease outbreaks. Parts of these duties included the assessment, development, and management of international biological research programs funded by the US Department of Defense. He also facilitated discussions with key individuals in US and foreign government agencies and the private sector.

(b)(6) Epidemiologist

An infectious disease epidemiologist with over 10 years of experience in development and implementation of epidemiologic and clinical research studies in international settings. She currently serves as the scientific technical lead on epidemiologic studies of various infectious diseases, including Lassa fever and Ebola, to characterize the morbidity, mortality and risk factors associated with disease and clinical outcome. Her vast experience includes clinical project management during the translational phase from pre-clinical studies through to implementation of Phase 1/2 clinical trials, with focused experience in managing all aspects of clinical trials related to infectious diseases including pre-clinical toxicology studies, cGMP manufacturing, IND submission, clinical study design and protocol development, ICF and CRF development, IRB submissions, clinical trial conduct, immunological analysis, database development, statistical analysis, interpretation of results, and manuscript preparation.

(b)(6) - Director of Behavioral Sciences

(b)(6) is a Medical Anthropologist with extensive experience coordinating behavioral research projects at sites in Asia, Africa (Cameroon, Gabon and DRC) and the US.

She has vast knowledge in planning field engagement and leading field teams in conducting formative research, integrating social scientific methods including key informant interviews, focus groups, behavioral trials, and other qualitative approaches with high-risk populations, including bushmeat hunters, butchers, vendors, and consumers; sex workers and the military throughout Central Africa.

(b)(6) PhD – Director of PREDICT

(b)(6) recently joined the Metabiota team as the Director and PI for the USAID funded PREDICT program operating in Africa and Southeast Asia, and Metabiota's Director of Epidemiology and Information Management. (b)(6) comes to Metabiota following a successful tenure as Associate Director, Wildlife Health Monitoring and Epidemiology at WCS Canada. For his Ph.D. he studied how wolf predation and disease interact to affect the population dynamics of wood bison in northern Canada. His work focuses on wildlife diseases that either directly threaten wildlife conservation through impacts on wildlife demography, or indirectly threaten wildlife through human activities to control perceived or real threats to human or livestock health. He has worked on conservation / health issues like foot and mouth disease in Mongolian gazelles, bovine tuberculosis and brucellosis in American bison, chronic wasting disease in deer, and avian influenza in wild birds.

(b)(6) rPH – Director of Surveillance, PREDICT

(b)(6) has many years experience working and living abroad providing operational and scientific research support in Africa and Asia related to emerging infectious disease. Her focus has been in the operational set up of research sites and managing surveillance operations. Her efforts have directly increased laboratory diagnostic capacity, as well as the capacity to control and respond to emerging infectious diseases in the countries that she has worked in. She now is the Director of Surveillance Operations for the PREDICT 2 program at Metabiota overseeing wildlife, livestock and human surveillance programs in over 8 countries across the globe. (b)(6) was promoted to this position following 5 years spent in Guangzhou, China managing Metabiota's China office and Southeast Asia regional engagements.

(b)(6) PhD

(b)(6) holds a PhD in Health Economics, Health Services and Policy Research from the University of Alberta School of Public Health. He has served as a Health Economist for the Institute of Health Economics, and also as a Lecturer in Health Economics at Hanoi Medical University. (b)(6) is an IAS/NIDA Research Fellow in Health Economics, Drug Abuse and HIV/AIDS for the Johns Hopkins Bloomberg School of Public Health. He has extensive

experience consulting for various international and governmental organizations including the World Bank and United Nations agencies, on global health and development issues in Southeast Asia. Much of his work focuses on determining cost-effective interventions, assessing health services and innovations, and strengthening health systems, particularly related to HIV/AIDS and emerging diseases within the region.

(b)(6) PhD

(b)(6) a biomedical scientist and science communicator with 10+ years of research experience in the microbiology, immunology, epidemiology, and pathogenesis of infectious diseases. She is also involved in global health and science outreach, advocacy, and communication, including through social media. She has extensively written and published her research in academic journals and presented at international scientific meetings, and has composed technical reports on leading topics in global HIV epidemiology and program implementation. She has served as a science writer/communicator/content producer for the World Bank Global HIV/AIDS Program as well as Independent Global Health and Science Consulting in Washington, DC, and was named one of the "100 Women Leaders in Global Health" by The Graduate Institute Geneva in 2014.

(b)(6) DVM, PhD, MS

(b)(6) olds a DVM from the University of California, Davis School of Veterinary Medicine, a PhD in Comparative Pathology and Viral Pathogenesis from the University of California, Davis, and an MS in Disease Ecology/Population Biology from the University of Virginia. (b)(6) s previously worked as an Instructor at the University of Virginia, and a Guest Instructor at the University of California, Davis. She has been a key member of several CDC Outbreak Response Teams: the Ebola Hemorrhagic fever outbreak response team in Kenema and Bo, Sierra Leone in 2014; the Marburg Hemorrhagic fever outbreak response team in Kabale, Uganda in 2012; the Filovirus Bat Ecology Team in Kitaka Mine, Uganda in 2012; and the Rift Valley fever virus Vaccine Initiative team in collaboration with Deltamune Pty., South Africa in 2010.

(b)(6) PhD, MPH

(b)(6) xperience includes three years as an epidemiologist and program evaluator with the SC Department of Health and Environmental Control as well as a combined eight years of emergency preparedness and response experience including positions with a disaster preparedness and education firm, Emergency Medical Technician, and leading disaster response and recovery teams (b)(6) is an experienced writer, researcher, and mixed methods evaluator with expertise in quantitative and qualitative data collection, analysis, presentation and grant writing.

(b)(6)

(b)(6) has more than 10 years in infectious disease research, with graduate coursework in epidemiology and public health. She has designed, conducted, and analyzed experiments that directly contributed to the funding of a successful R01 grant application resulting in $1.25 million in funding over five years. She most recently served as a research fellow for the Laboratory of Infectious Diseases at the National Institute of Allergy and Infectious Diseases, National Institutes of Health. Previously, she served as a Quality Control Biochemist at INOVA Diagnostics.

(b)(6) MA

has experience as a program manager and intelligence analyst with eight years of in-country experience in conflict zones and transitional areas including North Africa, the Middle East, Central America, and the Andean Region. He has an MA in International Affairs from Tufts University, and has worked as a Graduate Intelligence Analyst at MetLife Global Corporate Security in the Intelligence and Risk Analysis Division. He also has experience in using Geospatial Information System (GIS) software to assess crisis response for high-threat/high-risk scenarios, configure corporate contingency plans, and create briefing documents.

(b)(6), MPA

(b)(6) oined Metabiota after completing her MPA in International Management. She has five years experience working in international development abroad and domestically, ranging in scope from a macro-level international development bank to micro-level grass roots development work. Her areas of expertise include project coordination, monitoring and evaluation, and event logistics. Before joining Metabiota she worked for two and a half years in rural Mozambique as a Community Health and NGO Development Volunteer with the US Peace Corps, implementing public health projects with local community health clinics and international donors.

(b)(6) , MPH

is a Research and Data Analyst supporting the Academic Engagement Program. Before joining Metabiota she worked as a Health Consultant with UNICEF-Liberia for two and half years where she coordinated the implementation of community based maternal, neonatal, and child health interventions. While earning her MPH, Elma was a Graduate Research Assistant for the Mercer University Center for Rural Health and Health Disparities where she conducted qualitative and quantitative data collection and analysis, supported local government and NGOs with policy development and implementation, and was a Research Intern at the Centers for Disease Control and Prevention.

(b)(6) Research and Data Analyst

s a Research and Data Analyst supporting the Academic Engagement Program.

She graduated magna cum laude from Wake Forest University in 2014 with an undergraduate degree in Politics and International Affairs. While earning her degree, (b)(6) was a research assistant analyzing the content and context of changes in the constitutional status of citizenship in Latin America. Her extensive undergraduate thesis earned her departmental honors.

(b)(6) earch and Data Analyst

comes from a strong and varied research background, with first-hand experience both in the lab and in the field in ecology, evolutionary genetics, and virology. From her experience working at the leading edge of pandemic influenza research at the National Institutes of Health, she brings knowledge of the latest developments in the field. She is also skilled in the planning and implementation of environmental monitoring of large facilities as well as employee compliance through her work at an FDA-regulated contract lab.

(b)(6) hDc, MA

(b)(6) has over 10 years of experience developing, conducting, and managing public health research projects, as well as transforming research questions into operational study protocol and building data systems infrastructure. He holds an MA and PhD from the New School for Social Research and has served as a researcher for the Substance Abuse Unit, Department of Public Health in San Francisco, as well as the Center for AIDS Prevention Studies, University of California San Francisco.

(b)(6) H, PhD

(b)(6) is a Data Manager with varied experience in biostatistics, statistics consulting, and data analysis. He holds an MPH in Epidemiology/Biostatistics and a PhD in Epidemiology from UC Berkeley. His dissertation was on health outcomes after low CD4 cell count and mathematical models of HIV transmission. (b)(6) as served as a Data Manager for the University of California, San Francisco and a Statistical Consultant for Metabiota. He has also served as an Assistant Statistician for the University of California, San Francisco and for RTI International.

(b)(6) an experienced leader in both the strategy and execution of graphic design with degrees in engineering, visual communication, and computer science. He has served as the lead UI/UX Designer for the Bates Creative Group as well as the Founder/Creative & Art Director for Creative Manner Design Studio. His focus includes both graphic design and user interface design, and his expertise includes Illustrator, CSS3, HTML 5, corporate branding, both graphic and print design, art direction, and brand development.

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Metabiota External SMEs and Stakeholder Relations-Resources in Region (including, but not limited to):

UC Davis	Institut Pasteur	AAHL
Welcome Trust	Mahidol University	Eijkman Institute for Molecular Biology
Eco Health Alliance	UTMB	BEP
WCS	WHO	
Duke NUS	US-CDC	
NAMRU-2	Host Country Ministries & NGOs	

Cost Management

The Metabiota team and all partners will maintain an acute focus on cost management to ensure that this engagement is delivered at a reasonable cost to the government. Our team will ensure accurate and responsive financial reporting and will facilitate cost savings to the Government wherever possible. Our team will facilitate cost savings by employing a multi-pronged strategy which includes utilizing globally matrixed staff to provide their expertise at key junctures and providing ramp-up/ramp-down capability through the use of independent consultants and part time/on call (PTOC) personnel to fill key roles for limited duration.

Budget Narrative

Period of Performance

The Period of Performance for this effort is 16 May 2015 to 31 October 2015.

Labor

Metabiota's support of this effort is based on the solid expertise and cadre of exceptional researchers and SMEs the organization has on hand, and has engaged to support this project. Critical to developing an informed, targeted, and useable analysis is the reliance on field-specific expertise to inform and drive the regional assessment using risk analytics, scientific rigor and in-depth research analysis coupled with QAQC measures to provide an informative, pointed landscape of the PACOM region that will support CBEP's 5+ year strategic plan and programmatic metrics. SMEs from a variety of disciplines have been and will be engaged to support this project to ensure all aspects of the analysis are captured to include the disease landscape, political and economic environment, legislation and governmental requirements, cultural, religious and behavioral practices, geographical and environmental issues, security concerns, and the interstices and overlapping confluence of aspects that make this a multi-faceted assessment recognizing and addressing a dynamic and changing landscape. Key to the development of this framework is driving it to an end state that will support CBEP's long-term mission in this area of operation. Metabiota's diverse team is dedicated to supporting this endeavor and bringing this project to completion. The experience of Metabiota's project

The information contained herein is Metabiota PROPRIETARY information and may include Metabiota CONFIDENTIAL information and shall not be disclosed outside of the U.S. Government, as per the statement found on the cover page.

management team, lead by (b)(6) is focused on achieving the desired end state and has built out the required labor to support this endeavor through rigorous recruiting and recognition of qualified experts. Team members supporting this effort are providing various levels of effort depending on their expertise and the required support needed to address specific components of the analysis. Utilizing a flexible schedule, and a cadre of team members, Metabiota can ramp up or down activity levels to address, build and support the needs required to complete this effort.

Costs for direct labor to support this activity is required for the following personnel:

Metabiota SEA Program Manage (b)(6) to oversee and execute the project to include management of the cost, schedule and performance. In addition, she will provide direct management and oversight of all project personnel to include labor and reporting, driving the project to completion.

Metabiota Project Coordinator, (b)(6) will oversee the day-to-day activities of the project, as the key POC in Washington DC, supporting (b)(6) in the overall execution of this work. She will coordinate daily with project staff, CBEP regional and country leadership to ensure they are provided routine visibility on the project to include coordination of in-person meetings, weekly reports, and analysis updates.

Subject Matter Experts 1, (b)(6) (b)(6) are required to provide experience and development, review, and adaptation of research documents and deliverables, as well as general research activities and facilitation of scientific collaboration.

Subject Matter Experts 2, (b)(6) and yet-to-be identified individuals are required to provide experience and development, review, and adaptation of research documents and deliverables, as well as general research activities and facilitation of scientific collaboration. This team is skilled in risk management, environmental studies, GIS, cultural anthropology, veterinary sciences and other related disciplines. This teams conducts open source research, validates the collected data, develops pathogen profiles, socio-economic, behavioral, and cultural components of the landscape, as well as provides critical scientific writing and editing skills to ensure document flow and mapping of information.

Subject Matter Experts 3, (b)(6) and (b)(6) are required to provide extensive experience and development, review, and adaptation of research documents and deliverables, as well as general research activities and facilitation of scientific collaboration. Experts at this level bring a breath of regional and international experience to the project specifically focused in their areas of expertise to include microbiology, virology, health informatics, medical anthropology, and data analytics. This team provides QAQC measures to validate the data, as well as being a critical part of the team in collecting and driving the strict research aspects of this assessment.

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Research and Data Analysts (b)(6) and a yet-to-be identified individual are required to conduct general research activities and assist in document review and editing. This team makes up the general open research group of the project providing much needed daily research into all aspects of the analysis and supporting SMEs in developing and building out the assessment.

Additional costs for direct labor supporting the Deputy Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office. Additionally, SMEs within the organization may provide subject matter expertise from time to time to validate collected information or provide regional accuracy based on their expertise. Their time in doing so is not being requested for this effort.

Materials

EndNote is the industry standard software tool for publishing and managing bibliographies, citations, and references on the Windows and Macintosh desktop. We are requesting five EndNote licenses to support SMEs use of the software to accurately and professionally cite and reference all open source information gathered in support of this project. EndNote will standardize and format all citations in the document, reducing labor time and effort required for this endeavor. In addition, EndNote has networking capabilities allowing files to reside on a single server and the team to share references and results maximizing productivity.

Journal access is being requested to source critically valuable scientific information and publications providing key scientific findings and data supporting open source information gathering required to build out pathogen profiles and the disease landscape section of the regional analysis. Access to top journals includes Nature, New England Journal of Medicine, and the Journal of Virology.

Papers is an industry standard reference management software tool used to manage and organize references and maintain a library of PDF versions of scientific publications, as well as provides a uniform interface for document repository services, metadata editing, full screen reading and a variety of import/export capabilities that makes it easy to manage scientific resources. Five Papers licenses are being requested to support the online management and sharing of research publications contributing to the development of the regional landscape analysis allowing SMEs to maximize productivity through data management, sharing and standardizing library resources.

Graphic Services are being requested to support the development, design and completion of the regional landscape analysis to provide CBEP with a highly professional document that can be distributed according to CBEP protocol or requirements. Utilizing graphic services is required to support the layout and flow of the framework, while incorporating the required mapping, tables, charts, and quantitative information supporting the narrative text, in a way this easily understood, delivered and best utilized by the end-user, delivering a polished finished product.

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Communication costs are requested to support project personnel during international travel to ensure communication with SMEs is maintained and that contact with in-country partners is facilitated, should it be necessary for supporting collection and validation of information pertaining to the regional landscape analysis. In addition, communication costs are requested to support routine Skype communications with domestic and international project personnel, and partners to maintain routine communication necessary for the management of the project, conduct interviews with SMEs and in-country collaborators to build out the analysis and ensure validation of information collected.

Office materials and supply costs are requested to support routine development of the landscape analysis to include printed materials for presentation and delivery to CBEP during bi-weekly meetings, presentations and documents for CMs, and in routine course-correction and evaluation of gathered material to facilitate the completion of the assessment. Office materials and supplies include CDs and thumb drivers, printer paper, printer ink, highlighters, pens, white board supplies, and other related materials necessary for the project.

Cloud-based document management licenses are requested for five users to support Metabiota's use of Box to manage all project documents in support of shared materials, productivity and ensuring version control among the project team. In addition, as many of Metabiota's SME's are remote, the cloud-based system provides an interface in which materials can be easily tracked, accessed and managed for optimal organization.

Video conferencing and SMART board licensing and communications are required for five users to support enhanced communications across the project and provide an interactive environment supporting a collaborative and "think-tank" work space to outline, design, develop, and continue to enhance the analysis framework allowing team members to compile notes, images and other media into virtual notebooks stimulating product development and achieving the desired end state of a polished, directed outcome in support of CBEP's mission.

Other Direct Costs

Per contract guidelines Defense Base Act (DBA) insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all personnel for the period of performance for this engagement. In addition, DBA insurance will be secured for Metabiota personnel traveling internationally in direct support of the regional analysis.

Travel

At the request of DTRA, travel is required for Carlyle Gollogly, Southeast Asia Program Manager to travel to New Orleans to attend PACOM meetings, as well as the American Society for Microbiology General Meeting and to conduct working groups with DTRA CBEP Regional Leadership.

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Travel is requested for (b)(6) Southeast Asia Program Manager to travel to Washington, DC to support management of the overall project, to include engagement with CBEP Regional Leadership at in-person meetings to provide status updates and course correction, integration and management of SMEs and other project personnel, external partners and in support of synergistic efforts with subcontractors conducting country assessments.

Travel is required for (b)(6) Deputy Director of the AEP Program to travel to Manila, Philippines to attend the World Health Organization Western Pacific Regional Office (WHO/WPRO) Technical Assistance Group (TAG) meeting on the Asia Pacific Strategy for Emerging Diseases (APSED).

Conclusion

Metabiota is committed to supporting our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP PACOM in the implementation of the PACOM Regional Landscape Analysis. Through strong project management and risk mitigation, Metabiota will ensure that the analysis will be executed in an efficient and timely manner and will deliver a top-quality product geared toward supporting enhanced biosurveillance and biosafety efforts in the region.

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Attachment 1

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Attachment 1

Executive Summary

CBEP Strategic Objectives

Overview of Methodology

Summary of Risks

Known Gaps

Unknown Areas

Potential Approaches

Disease Landscape

Baseline Risk Matrix

Intentional Use executive Summary
Discussion of factors that contribute to a higher probability and an overview of the pathogens that pose a threat for intentional use (potential scenarios)

Graphics for intentional use

Accidental Executive Summary

Graphics/Maps for accidental

Natural Occurrence Executive Summary

Graphics/Maps for natural occurrence

Attachment 1

Capacity Landscape

Residual Risk Matrix

Stakeholder Executive Summary

Graphics for stakeholders (maps/disease focuses/expenditure/etc)

Initiative Executive Summary

Graphics for initiatives

Networks Executive Summary

Networks Graphics

Gap Analysis

Approach Analysis

Annex A – Pathogen Profiles

Attachment 1

Annex B – Likelihood & Severity Factor Profiles

Annex C – Stakeholder Profiles

Annex D – Initiative Profiles

Annex E – Network Profiles

Appendix A – Terms & Abbreviations

Appendix B – Methodology

Appendix C – Product & Process Analysis

Appendix D - Acknowledgements

Attachment 2

Pathogens of Concern

Abrin
Bacillus anthracis, Bacillus anthracis Pasteur strain
Botulinum neurotoxins, Botulinum neurotoxin producing species of Clostridium
Brucella spp.
Burkholderia spp.
Chikungunya virus
Cholera
Classical swine fever virus
Conotoxins
Coxiella burnetii
Crimean-Congo hemorrhagic fever virus
Dengue
Diacetoxyscirpenol
Ebola virus
Foot-and-mouth disease virus
Francisella tularensis
Hantavirus
Hendra and Nipah virus (Henipavirus)
Hepatitis
HIV
Influenza (+Avian)
Japanese encephalitis virus
Kyasanur Forest disease virus
Malaria
Marburg virus
MERS-CoV
Newcastle disease virus
Peste des petits ruminants virus
Rabies virus
Ricin
Rickettsia prowazekii
Rinderpest virus
SARS-associated coronavirus (SARS-CoV)
Saxitoxin
Sheep and goat pox virus
Staphylococcal enterotoxins A,B,C,D,E subtypes
T-2 toxin

Attachment 2

Tetrodotoxin
Tick-borne encephalitis complex (flavi) viruses:
Far Eastern and Siberian subtypes
Tuberculosis, including drug-resistant TB
Variola major virus (Smallpox virus)
Variola minor virus (Alastrim)
West Nile virus
Yersinia pestis

METABIOTA

July 01, 2015

Dr. (b)(6) ontracting Officers Representative J3CTB
Defense Threat Reduction Agency (DTRA)
8725 John J Kingman Road, #6201
Fort Belvoir, VA 22060

Sent via email to (b)(6)
CC: (b)(6)
(b)(6)

RE: HDTRA1-14-C-0104 Technical Direction **009 for continued implementation of Biosafety and Biosecurity training in South Africa.**

Dear (b)(6)

Metabiota, Inc. (Metabiota) is pleased to present the attached proposal in response to the above referenced Letter of Technical Direction sent by DTRA on **June 13, 2015**

For the effort described, Metabiota estimates the Rough Order of Magnitude (ROM) to be **$335,607** for a **Period of Performance of May 16, 2015-May 25, 2016.** The detailed budget is included. This proposal remains valid until September 30, 2015.

Please feel free to contac (b)(6) with questions or concerns at
(b)(6)

Sincerely,

(b)(6)

METABIOTA

July 01, 2015

(b)(6) Contracting Officers Representative J3CTB
Defense Threat Reduction Agency (DTRA)
8725 John J Kingman Road, #6201
Fort Belvoir, VA 22060

Sent via email to (b)(6)
CC: (b)(6)
(b)(6)

RE: HDTRA1-14-C-0104 Technical Direction **010 for One Health Epidemiology training in the Republic of South Africa**

Dear (b)(6)

Metabiota, Inc. (Metabiota) is pleased to present the attached proposal in response to the above referenced Letter of Technical Direction sent by DTRA on **June 13, 2015**

For the effort described, Metabiota estimates the Rough Order of Magnitude (ROM) to be **$194,612** for a **Period of Performance of May 16, 2015-December 31,2015.** The detailed budget is included. This proposal remains valid until September 30, 2015.

Please feel free to contac (b)(6) with questions or concerns at
(b)(6)

Sincerely,

(b)(6)

METABIOTA

July 06, 2015

(b)(6) Contracting Officers Representative J3CTB
Defense Threat Reduction Agency (DTRA)
8725 John J Kingman Road, #6201
Fort Belvoir, VA 22060

Sent via email to (b)(6)
CC: (b)(6)
(b)(6)

RE: HDTRA1-14-C-0104 Technical Direction 013
One Health Epidemiology Training in Uganda

Dear (b)(6)

Metabiota, Inc. (Metabiota) is pleased to present the attached proposal in response to the above referenced Letter of Technical Direction sent by DTRA on 29 June 2015.

For the effort described, Metabiota estimates the Rough Order of Magnitude (ROM) to be **$462,617** for a Period of Performance of **May 16, 2015 to December 31, 2015**. The detailed budget is included.

Please feel free to contact (b)(6) with questions or concerns at (b)(6)

Sincerely,

(b)(6)

METABIOTA

June 19, 2015,

(b)(6) Contracting Officers Representative J3CTB
Defense Threat Reduction Agency (DTRA)
8725 John J Kingman Road, #6201
Fort Belvoir, VA 22060

Sent via email t (b)(6)
CC: (b)(6)
(b)(6)

RE: HDTRA1-14-C-0104 Technical Direction for Nipah Research Activity Project (RAP)

Dear (b)(6)

Metabiota, Inc. (Metabiota) is pleased to present the attached proposal in response to the above referenced Letter of Technical sent by DTRA on June 3, 2015.

Metabiota intends to engage Duke NUS and The Regional Institute of Tropical Medicine as subcontractors to implement this effort.

For the effort described, Metabiota estimates the Rough Order of Magnitude (ROM) to be **$874,846** for a Period of Performance of June 01, 2015 to September 30, 2016. The detailed budget is included. This proposal remains valid until September 30, 2015.

Please feel free to contact (b)(6) with questions or concerns at
(b)(6)

Sincerely,
(b)(6)

METABIOTA

June 19, 2015,

(b)(6) ontracting Officers Representative J3CTB
Defense Threat Reduction Agency (DTRA)
8725 John J Kingman Road, #6201
Fort Belvoir, VA 22060

Sent via email to (b)(6)
CC: (b)(6)
(b)(6)

RE: HDTRA1-14-C-0104 Technical Direction the PACOM Regional Landscape Analysis

Dear (b)(6)

Metabiota, Inc. (Metabiota) is pleased to present the attached proposal in response to the above referenced Letter of Technical sent by DTRA on June 8, 2015.

For the effort described, Metabiota estimates the Rough Order of Magnitude (ROM) to be **$850,489** for a Period of Performance of May 16, 2015 to October 31, 2015. The detail budget is included. This proposal remains valid until September 30, 2015.

Please feel free to contac (b)(6) with questions or concerns at
(b)(6)

Sincerely,
(b)(6)

METABIOTA

June 10, 2015,

(b)(6) Contracting Officers Representative J3CTB
Defense Threat Reduction Agency (DTRA)
8725 John J Kingman Road, #6201
Fort Belvoir, VA 22060

Sent via email t (b)(6)
CC: (b)(6)
(b)(6)

RE: HDTRA1-14-C-0104 Technical Direction for Continued Implementation Clinician Training in Uganda

Dear (b)(6)

Metabiota, Inc. (Metabiota) is pleased to present the attached proposal in response to the above referenced Letter of Technical sent by DTRA on June 08, 2015.

The Letter of Technical Direction provided an estimated price based on a Period of Performance end date of August 30, 2015. To continue the most effective clinician training seminars in Uganda, Metabiota would continue to engage IMAI-IMAIC (Alliance) for implementation. The total Rough Order of Magnitude is estimated at **$1,207,176** for a Period of Performance of May 16, 2015 to August 30, 2015.

Metabiota's Subcontractor, the Alliance, has provided eleven (11) effective trainings under the AEP Contract and has designed a full training plan, which includes twenty-five (25) additional trainings. The total would be an estimated thirty-six (36) training events for 2015. To capture the optimal effectiveness of the Clinician Training Program, Metabiota proposes a second Rough Order of Magnitude of **$1,562,600** for a period of performance of September 1, 2015 to February 28, 2016.

Acceptance of the full training program as described in Metabiota's proposal would equate a base price of $1,207,176 and an option period price of $1,562,600. The total estimated price would be **$2,769,776** for a Period of Performance of May 16, 2015 to February 28, 2016.

Please feel free to contact (b)(6) with questions or concerns at (b)(6)
(b)(6)

Sincerely,

(b)(6)

From: (b)(6)
To:
Cc:

Subject: Metabiota's Budget and Technical Proposal for TD 008 Clinician Training Uganda
Date: Wednesday, June 10, 2015 10:39:59 PM
Attachments: Metabiota_AEP_Transmittal Letter_TD008 Clinician Training Uganda_20150610.pdf
Metabiota_AEP_Budget 1 TD008 Clinician Training Uganda 20150610_xlsx
Metabiota_AEP_Budget 2 TD008 Clinician Training Uganda 20150610_xlsx
Metabiota AEP_Technical Proposal_TD008_Clinician Training Uganda_20150610.pdf

Good Evening (b)(6)

Attached, please find Metabiota's budget and technical proposal in response to the above referenced Letter of Technical Direction sent by DTRA on June 08, 2015.

The Technical Direction provided an estimated Period of Performance end date of August 30, 2015. Metabiota intends to continue to engage IMAI-IMAIC (Alliance) for implementation. The total Rough Order of Magnitude is estimated at $1,207,176 for a Period of Performance of May 16, 2015 to August 30, 2015 (Included in attachment "Metabiota_AEP _Budget 1_TD008_Clinician_Training_Uganda_20150610").

The Alliance, has provided eleven (11) effective trainings under the AEP Contract and has designed a full training plan, which includes twenty-five (25) additional trainings for an estimated total thirty-six (36) training events. To capture the optimal effectiveness of the Clinician Training Program, Metabiota proposes a second Rough Order of Magnitude of $1,562,600 for a period of performance of September 1, 2015 to February 28, 2016 (included in attachment "Metabiota_AEP _Budget 2_TD008_Clinician_Training_Uganda_20150610").

Acceptance of the full training program as described in Metabiota's proposal would equate a base price of $1,207,176 and an option period price of $1,562,600. The total estimated price would be $2,769,776 for a Period of Performance of May 16, 2015 to February 28, 2016.

Please feel free to contact me with questions or concerns.

Thank you,

(b)(6)
Program Operations Manager
AEP Contracts Administrator
(b)(6)
Skype (b)(6)

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt

METABIOTA

June 10, 2015,

(b)(6) Contracting Officers Representative J3CTB
Defense Threat Reduction Agency (DTRA)
8725 John J Kingman Road, #6201
Fort Belvoir, VA 22060

Sent via email t (b)(6)
CC: (b)(6)
(b)(6)

RE: HDTRA1-14-C-0104 Technical Direction for Continued Implementation Clinician Training in Uganda

Dea (b)(6)

Metabiota, Inc. (Metabiota) is pleased to present the attached proposal in response to the above referenced Letter of Technical sent by DTRA on June 08, 2015.

The Letter of Technical Direction provided an estimated price based on a Period of Performance end date of August 30, 2015. To continue the most effective clinicia aining seminars in Uganda, Metabiota would continue to engage IMAI-IMAIC (Alliance) for implementation. The total Rough Order of Magnitude is estimated at **$1,207,176** for a Period of Performance of May 16, 2015 to August 30, 2015.

Metabiota's Subcontractor, the Alliance, has provided eleven (11) effective trainings under the AEP Contract and has designed a full training plan, which includes twenty-five (25) additional trainings. The total would be an estimated thirty-six (36) training events for 2015. To capture the optimal effectiveness of the Clinician Training Program, Metabiota proposes a second Rough Order of Magnitude of **$1,562,600** for a period of performance of September 1, 2015 to February 28, 2016.

Acceptance of the full training program as described in Metabiota's proposal would equate a base price of $1,207,176 and an option period price of $1,562,600. The total estimated price would be **$2,769,776** for a Period of Performance of May 16, 2015 to February 28, 2016.

Please feel free to contact (b)(6) with questions or concerns a (b)(6) or (b)(6)

Sincerely,

(b)(6)

TD 008 Clinician Training in Uganda

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: June 10, 2015
PERIOD OF PERFORMANCE: May 16 2015- August 30 2015
PROJECT: Clinician Training

LABOR *(fully loaded based on MOD 18*	**Hours**		**Amount**
(b)(4); (b)(6)	740	$	(b)(4); (b)(6)
	1,776	$	
	592	$	
	1,776	$	
	444	$	
	296	$	
Total Labor Costs (fully loaded):	**5,624**		**$1,012,456**
OTHER DIRECT COSTS *(fully loaded)*:			
CLIN 1003 Materials		$	88,868.93
CLIN 1004 ODCs		$	16,386.01
CLIN 1005 Travel		$	89,465.00
Total Other Direct Costs (fully loaded):			(b)(4); (b)(6)
Total: Estimated			

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10-Jun-15
Project Clinician Training
Period of Performance: May 16 2015- August 30 2015

CLIN No.	Labor Description	Cost	Total Hours	Total Billable Amount $
CLIN 1002		(b)(4); (b)(6)	740	(b)(4); (b)(6)
CLIN 1002			1,776	
CLIN 1002			592	
CLIN 1002			1,776	
CLIN 1002			444	
CLIN 1002			296	

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10 Jun 15
Project Clinician Training
Period of Performance: May 16 2015- August 30 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	Communciation	2,000.00	4	$ 8,000.00
1003	Printing	1,860.00	1	$ 1,860.00
1003	Pulse Oximeters - hospital grade, replaceable probes	267.50	20	$ 5,350.00
1003	Pulse oximeters- individual clinician use	42.80	60	$ 2,568.00
1003	Pilot Tablets	192.60	20	$ 3,852.00
1003	Tethering for Tablets	107.00	20	$ 2,140.00
1003	Training Event Logistics(May-July)	11,500.00	5	$ 57,500.00
1003	Shipping (in Uganda)	3,150.00	1	$ 3,150.00
			Sub-Total	$ 84,420.00

(b)(4);(b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: Academic Engagement Partnership Program
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10-Jul.-15
Project Clinician Training
Period of Performance: May 16 2015- August 30 2015

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance	$ 12,548.61	1	12,549
1004				-
1004				-
1004				-
1004				-
			Sub-Total	12,549

(b)(4); (b)(6)

TRAVEL ESTIMATE COST

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10 Jun 15
Proposal: Clinician Training
Period of Performance: May 16 2015 August 30 2015

	International	
Traveler:	TBD	
Departure Location:	Washington, DC	
Destination:	Uganda	
Purpose:	OHC	
Airfare	$	2,500.00
Lodging	$	1,500.00
Meals / Incidentals	$	450.00
Meals / Incidentals (First and Last Travel Days)	$	135.00
Ground Transport	$	1,050.00
Anti Malaria	$	210.00
Incidentals (Visa)	$	150.00
Vaccinations	$	250.00
# of Days		7
Total Per Trip		**$6,245**
No. of trips		3
No. of persons		2
SUBTOTAL:		**$37,470**
TOTAL TRAVEL BUDGET:		**$37,470**

	International	
Traveler:	TBD	
Departure Location:	San Francisco	
Destination:	Uganda	
Purpose:	OHC	
Airfare	$	2,151.00
Lodging	$	2,250.00
Meals / Incidentals	$	1,050.00
Meals / Incidentals (First and Last Travel Days)	$	135.00
Ground Transport	$	2,100.00
Anti Malaria	$	280.00
Incidentals (Visa)	$	150.00
Vaccinations	$	250.00
# of Days		11
Total Per Trip		**$10,399**
No. of trips		5
No. of persons		1
SUBTOTAL:		**$51,995**
TOTAL TRAVEL BUDGET:		**$51,995**

GRAND TOTAL
$89,465

USG Foreign Per Diem Rates			
Location	**Maximum Lodging**	**M&IE**	**Total**
Uganda	250	90	340

WORKABLE HOURS

LABOR				HOURS					COST				
NAME	TYPE	CATEGORY	DESCRIPTION	Sep 21 - Aug	Aug	July	Sep	TOTAL	BILLABLE RATE	ACTUAL RATE	TOTAL BUDGET	EST ACTUALS AT BILLABLE RATE	VARIANCE
Project Management													
PM	FT	Program Manager	Program Manager	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					
PA	FT	Research and Data Analyst	Training Integration Coordinator	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					
Training Material Development, Adaptation, and Implementation													
SM	[illegible]	Senior Ed Mineur	Scientific Director	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					
PM	[illegible]	Program Manager	Program Manager	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					
SME3	[illegible]	SME 3	Training	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					
SME2	[illegible]	SME 2	Training	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					
SME1	[illegible]	SME 1	Training	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					
Post Training Evaluations and Reporting													
PM	FT	Program Manager	Program Manager	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					
PA	FT	Research and Data Analyst	Data Analysis Support	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					

(b)(4); (b)(6)

PM	[illegible]	$	[illegible]	$	[illegible]
PA	[illegible]	$	[illegible]	$	[illegible]
SM	[illegible]	$	[illegible]	$	[illegible]
	[illegible]	$	[illegible]	$	[illegible]
	[illegible]	$	[illegible]	$	[illegible]
	[illegible]	$	[illegible]	$	[illegible]
	[illegible]			$	[illegible]

TD 008 Clinician Training in Uganda Phase 2

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: June 10, 2015
PERIOD OF PERFORMANCE: September 01 2015 - February 28 2016.
PROJECT: Clinician Training

LABOR *(fully loaded based on MOD 18*	**Hours**		**Amount**
(b)(4); (b)(6)	1,149	$	(b)(4); (b)(6)
	2,326	$	
	784	$	
	2,318	$	
	654	$	
	486	$	
Total Labor Costs (fully loaded):	**7,717**		
OTHER DIRECT COSTS *(fully loaded)*:			
CLIN 1003 Materials		$	40,850.02
CLIN 1004 ODCs		$	21,645.00
CLIN 1005 Travel		$	122,752.65
Total Other Direct Costs (fully loaded):			(b)(4); (b)(6)
Total: Estimated			

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10-Jun-15
Project Clinician Training
Period of Performance: September 01 2015 - February 28 2016.

CLIN No.	Labor Description	Cost	Total Hours	Total Billable Amount $
CLIN 1002		(b)(4);(b)(6)	1,149	(b)(4);(b)(6)
CLIN 1002			2,326	
CLIN 1002			784	
CLIN 1002			2,318	
CLIN 1002			654	
CLIN 1002			486	
			7,717	

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10 Jun 15
Project Clinician Training
Period of Performance: September 01 2015 February 28 2016.

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	Communciations	2,000.00	6	$12,000.00
1003	Printing	2,790.00	1	$ 2,790.00
1003	Pulse Oximeters - hospital grade, replaceable probes	267.50	30	$ 8,025.00
1003	Pulse oximeters- individual clinician use	42.80	90	$ 3,852.00
1003	Pilot Tablets	192.60	30	$ 5,778.00
1003	Tethering for Tablets	107.00	30	$ 3,210.00
1003	Shipping	3,150.00	1	$ 3,150.00
			Sub-Total	$ 38,805.00

(b)(4); (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10 Jun 15
Project Clinician Training
Period of Performance: September 01 2015 - February 28 2016.

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA	$ 16,576.04	1	16,576
1004				-
1004				-
1004				-
1004				-
			Sub-Total	16,576

(b)(4); (b)(6)

TRAVEL ESTIMATE COST

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 10 Jun 15
Proposal: Clinician Training
Period of Performance: September 01 2015 February 28 2016.

	International		International
Traveler:	TBD	Traveler:	TBD
Departure Location:	Washington, DC	Departure Location:	San Francisco
Destination:	Uganda	Destination:	Uganda
Purpose:	OHC	Purpose:	OHC
Airfare	$ 2,500.00	Airfare	$ 3,153.95
Lodging	$ 1,500.00	Lodging	$ 3,250.00
Meals / Incidentals	$ 450.00	Meals / Incidentals	$ 1,080.00
Meals / Incidentals (First and Last Travel Days)	$ 135.00	Meals / Incidentals (First and Last Travel Days)	$ 135.00
Ground Transport	$ 1,050.00	Ground Transport	$ 2,100.00
Anti Malaria	$ 210.00	Anti Malaria	$ 280.00
Incidentals (Visa)	$ 150.00	Incidentals (Visa)	$ 150.00
Vaccinations	$ 250.00	Vaccinations	$ 250.00
# of Days	7	# of Days	11
Total Per Trip	**$ 6,245.00**	Total Per Trip	**$ 10,398.95**
No. of Trips	4	No. of Trips	7
No. of persons	2	No. of persons	1
SUBTOTAL:	**$49,960**	**SUBTOTAL:**	**$72,792.65**
TOTAL TRAVEL BUDGET:	**$49,960**	**TOTAL TRAVEL BUDGET:**	**$72,793**

GRAND TOTAL
$122,753

USG Foreign Per Diem Rates			
Location	**Maximum Lodging**	**M&IE**	**Total**
Uganda	250	90	340

WORKABLE HOURS

LABOR											COST			
NAME	TYPE	CATEGORY	DESCRIPTION						TOTAL	BILLABLE RATE	ACTUAL RATE	TOTAL BUDGET	EST ACTUALS AT BILLABLE RATE	VARIANCE
PM	FT	Program Manager	(b)(4); (b)(6)	12	20	22	16	20	102	(b)(4); (b)(6)			$ 11,171.58	
RA	FT	Research and Data Analyst		32	40	34	44	44	202				$ 15,315.92	
Training Material Development, Adaptation, and Implementation														
SM	S	Scientific Mentor		58	132	132	132	132	48	654				$ 105,498.00
PM	S	Program Manager		160	160	132	176	176	4	808				$ 125,870.64
SME3	S	SME 3		484	968	968	968	152	150	2326				$ 586,217.00
SME2	S	SME 2		160	160	132	176	60	4	768				$ 113,691.12
SME1	S	SME 1		190	968	968	972	152	150	2318				$ 291,263.72
Post Training Evaluations and Reporting														
PM	FT	Program Manager		31	20	22	16	22	40	161				$ 17,631.53
RA	FT	Research and Data Analyst		40	40	34	40	40	32	268				$ 21,210.56
										5717				$ 1,488,450.07

Summary			
PM	1145	$ 125,474.11	$ 125,474.11
RA	486	$ 36,526.50	$ 36,526.50
SM	654	$ 105,498.00	$ 105,498.00
SME	2326	$ 262.90	$ 586,217.00
SME	768	$ 170.43	$ 113,691.12
SME	2318	$ 125.63	$ 291,263.72
Total	5717		$ 1,488,450.07

Metabiota's Technical and Cost Proposal

"DTRA/CBEP AEP Clinician Training"

Technical Direction Number: TD-008
Contract Number: HDTRA1-14-C-0104
CAGE Code: 56SP4
DUNS number: 828131156

Small US Business
Metabiota, Inc.

METABIOTA

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Training Reinforcement: Mentoring and Physical Improvement to Improve Care and Notification Process

Assessments Before and After Training

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Executive Summary

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) has tasked Metabiota, Inc. through the Academic Engagement Partnership (AEP) contract vehicle with developing and delivering clinician training in Uganda. These events support accurate and rapid identification of infectious disease agents, which is an integral component of the disease reporting process and paramount for mitigation of epidemics. This initiative will support the preparedness and capabilities of clinical professionals operating in Uganda to reduce the threat of spreading causative agents of potentially dangerous diseases.

Detailed herein, the Metabiota team endeavors to fulfill this requirement through execution of continued training implementation of health practitioners in Uganda. Through the implementation of coherent training methodologies that are driven by on-the-ground experience and decades of expertise, as well as follow on engagements and deliverables, Metabiota is well positioned to support training activities and scientific engagement in the USAFRICOM's region of responsibility.

Project Overview

Introduction

Through AEP Technical Direction TD-008, DTRA CBEP tasked the Metabiota team to execute Clinician Training in Uganda. The overarching goal of the work outlined in this proposal is to bolster existing public health capacity in the region. The trainings outlined below will serve to improve the host countries abilities to detect, diagnose and report events with the potential to cause public health emergencies of international concern (PHEIC), especially those associated with U.S. Select Agents and Toxins, in accordance with World Health Organization (WHO) International Health Regulations 2005 (IHR 2005) and WHO African Regional Office (AFRO) / U.S. Centers for Disease Control (CDC) Integrated Disease Surveillance and Response (IDSR) systems.

District-level hospital workers require training in infectious disease detection and diagnosis in order to provide early notification of a potential PHEIC. District hospitals provide a substantial proportion of the initial emergency care and ongoing inpatient management of patients with infectious diseases. Strengthening the capacity of district clinicians to perform a differential diagnosis, and to use appropriate and available laboratory tests, will improve early reporting of diseases and, potentially, mitigate the risk of an epidemic.

Background

The Metabiota team understands that the US Department of Defense (DoD) initiated CBEP through DTRA in order to reduce the threat of biological outbreaks. The team further recognizes that to achieve its mission, CBEP works collaboratively with partner nations, U.S. Government agencies, and the international community to enhance disease surveillance

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capabilities; develop human resource expertise in public and animal health, promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner. Through the Academic Engagement Partnership (AEP) Program, Metabiota aims to support the CBEP mission of reducing the potential impact of biological threats through enhanced biological safety and security, awareness of biological risks, and knowledge related to biological pathogens.

In support of this approach, the Metabiota team, along with its partners, intends to administer high-value trainings that will support strategic CBEP objectives by strengthening the region's capacity to diagnose and detect diseases; thereby enhancing local management and mitigation of infectious disease events. The team's on-the-ground experience and decades of expertise makes us well positioned to support the implementation of these trainings and all of the associated activities, as well as scientific engagement in the AFRICOM's area of responsibility.

Purpose

The purpose of the Clinician Training requirement is to enhance the ability of Ugandan clinician's and health workers to recognize key diseases early, report them according to district and national protocols, and rapidly use laboratory support, as available, to confirm possible diagnoses. It is expected that this will help improve the timeliness of identification of unusual diseases and, ultimately, enable more rapid and better responses to disease outbreaks. Targeted training materials supported by on-site clinical mentoring, will assist in disease identification and reporting.

To accomplish this purpose, DTRA CBEP, through the AEP contract, will engage Metabiota and it's cadre of Subject Matter Experts (SMEs), Qualified Trainers (QTs), as well as project partners the IMAI/IMCI Alliance and Walimu, to implement the clinician training events in Uganda.

Objective

Metabiota will implement training activities in Uganda to bolster clinical capabilities for responding to and providing care for patients exposed to especially dangerous pathogens (EDP). Ensuring proper protocols are employed to manage potentially infected patients will ultimately mitigate the threat of further disease transmission. Investing in preventative clinical care capabilities will, ultimately, save lives and prevent potentially catastrophic economic outcomes, which can be associated with epidemics.

The project, initially approved in February 2015, included several objectives that have been completed (e.g., Objectives 1-3). This included adaptation of generic training materials and conducting gap analyses. All training materials previously provided to DTRA have been PAO approved, and have served as the foundation for implementation of training activities in Uganda (Objective 4).

Generic training materials provided via **Objective 1** serve as the foundation for training in all countries to be trained. However, it is recognized that each country may have unique needs

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related to endemic threats and their respective health care systems. **Objective 2** requires a gap analysis be performed, which will characterize the existing health care infrastructure and identify endemic threats, including pathogens on the U.S. Select Agent list and those of concern to overall public health. Leveraging this information, a country-specific adaptation (**Objective 3**) of the WHO AFRO/CDC IDSR, which fulfills IHR requirements for disease reporting, will be developed and, ultimately, implemented (**Objective 4**).

Threat Reduction Outcomes

The proposed project seeks to improve health care infrastructure within Uganda. Specifically, the clinician training program will train in-country health workers to recognize, respond to, and report pathogens, which could cause epidemics and result in significant financial burden. Early identification and response will mitigate potential loss of human life and economic burden.

In addition to improving response to general diseases of concern to the host country, these trainings will provide information relevant to preparedness and response to potential VHF (Viral Hemorrhagic Fever) exposure, including Ebola, Lassa fever, and Marburg viruses, all of which are EDPs (Especially Dangerous Pathogens).

Increased biosafety acumen when working with pathogens, particularly EDPs such as VHFs, is a cornerstone of CBEP engagement. As part of the VHF training, health workers will be trained to properly implement biosafety protocols, including dawning and doffing personal protective equipment (PPE), as required by the agent in question. All engaged countries will be trained to follow internationally recognized reporting measures. In addition, as part of the materials adaptation process, gap analyses of the host countries health care system, including previously implemented trainings, will be performed. The gap analyses will be presented as reports, and information presented within them will help all stakeholders (e.g., USG and host country ministries) understand potential areas of future engagement to further bolster the host countries capabilities.

Management Approach

Introduction

Metabiota will continue to employ its existing organizational leadership to interface with the Regional Science Manager, and Country Manager, as needed to direct the operational and administrative support required to ensure successful and timely execution of all Clinician Training events in Africa. Our Program Manager will maintain oversight of training execution, with the support of a travel coordinator, Research Collaborators and Subject Matter Experts to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Project Team Structure

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the Program Manager, Project Coordinator, Travel Coordinator and the Teams Research Collaborators and Subject Matter Experts that will be tasked with specific

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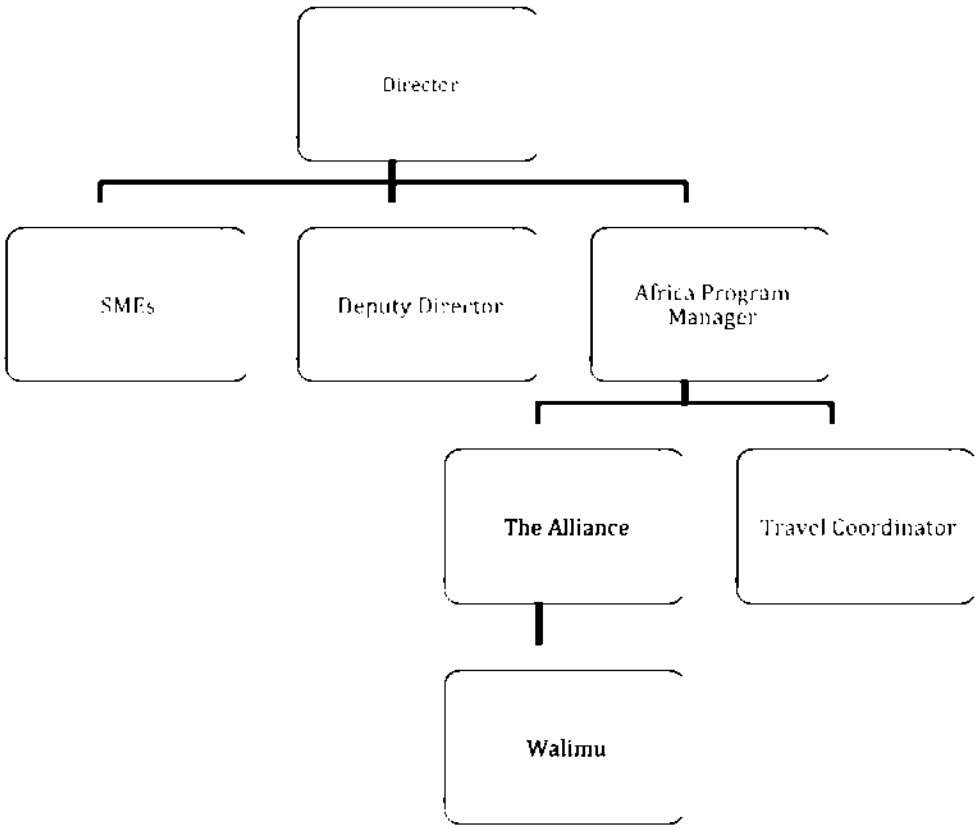
assignments to support the development and implementation of training events based on their administrative and scientific expertise. This team includes experts from the Alliance and in-country implementer, Walimu. The Alliance and Walimu will utilize their in-country expertise and engagement with local stakeholders to ensure successful training events. Our team of experts will maintain the overall project management and tasks associated with the training are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.



Execution

The project management team will continue to maintain oversight and implementation of the project at all times and will ensure rapid execution of all training events, tracking objectives to ensure the project stays on schedule to complete the training exercises. The project will be managed according to the continual implementation plan and will be course corrected, as needed, to ensure target end-goals are reached. The following tools will be used to guarantee the project schedule will be maintained:

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Project Administration:

1. Weekly team meetings and conference calls will continue to be held to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Coordinator and will include the PM, SME, Scientific Mentor and AEP leadership, as needed based on the requirements and stage of implementation.
2. Routine calls and communication via email will continue with CBEP regional leadership and Metabiota to provide routine status updates and ensure training implementation.

Project Reporting:

1. Weekly status reports will continue to be provided by the PM to senior Metabiota leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction, as needed to ensure training goals are met.

Monitoring and Controlling

1. Routine risk assessment will continue to be performed internally among the Metabiota project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with CBEP regional leadership to ensure the project remains on track and is implemented according to standard.
3. Routine oversight and coordination will be maintained to ensure CLS is performing in-country logistical requirements, when necessary, to ensure successful execution of the training.

Completion

Maintaining a focused project schedule with routine meetings and communication with CBEP regional leadership allowing for continued coordination, while maintaining targeted objectives, Metabiota will drive the project to completion through the determined project end-date. Metabiota will provide the required deliverables of clinician training trip reports. Metabiota believes that the experience and management it will bring to this project, in collaboration with CBEP will guarantee success.

Technical Approach

Introduction

To facilitate effective training of health workers in Metabiota, and its partners the Alliance and Walimu, will employ the IMAI training materials, which are comprised of the following: 1) WHO IMAI District Clinician Manual (DCM), 2) pocket guidebook, and 3) Quick Check wall charts. The intended purpose of these materials is three-fold: to improve district hospital clinical management and surveillance of key notifiable diseases by the involvement and preparation of clinical teams for disease recognition; implement sustainable practices for case management of

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severely ill patients; and to ensure that proper reporting procedures are in place, which align with international standards (IHR).

Of particular importance, the training materials include the new WHO IMAI DCM, which outlines and provides reference for 1) triage training, 2) emergency treatments, 3) management of severely ill patients of any etiology, and 4) the clinician's role in surveillance of diseases with epidemic potential (called the Quick Check+ training curriculum). On-site clinical mentoring and quality improvement activities, as well as ongoing monitoring and on-site evaluations will further support training.

In addition to providing a simplified algorithm for emergency triage, assessment and treatment, and the ongoing management of severely ill adolescent and adult patients, the evidence-based WHO manual integrates the identification of notifiable, epidemic-prone diseases within a case management approach based on support for clinical reasoning using differential diagnosis. The manual's differential diagnosis tables include the important notifiable diseases with case definitions and a chapter on disease reporting, which lists all IDSR notifiable diseases and indicates the section of the IMAI DCM where they can be found. The disease-specific sections focus primarily on case definition, diagnosis based on clinical and laboratory features, guidance for specific empirical treatment(s) and supportive care, assessment of response to treatment, and instructions on when to report. Importantly, the IMAI septic shock guidelines have been incorporated into the viral haemorrhagic fever (VHF) pocket guides, which will be used in VHF epidemic-prone areas of East and West Africa.

Derived from the IMAI DCM product is a participatory training course, Quick Check+, which addresses emergency triage and treatments for adults. This course trains the clinical teams to support the triage, emergency management, and infection prevention and control of severely ill adolescent and adult patients, who present with severe acute respiratory infections, VHFs, or other communicable diseases. The short disease surveillance course and reporting training module, used within the clinical training course, has the advantage of effectively engaging busy clinicians and hospital managers for disease reporting and has been very well received in this context. Training all relevant cadres (nurses, managers, and auxiliary staff, in addition to district clinicians such as medical doctors, general practitioners or other senior clinical cadres) within the district hospital helps ensure implementation after training utilizing the following:

- Engaging hospital managers who are key in planning and supporting the budget and organization requirements for improved care and reporting
- Recognizing the important role of senior clinical nurses in providing care during most hours of the day
- Supporting the role of auxiliaries in their contacts with patients, triage, and community linkages

The interventions will be implemented through the following mechanisms:

- Provision of country-adapted guidelines (country-adapted versions of the WHO IMAI DCM and Hospital Care for Children) to participating healthcare workers;

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- In-service training;
- Mentoring/quality improvement interventions on a regular basis after training, with mentors able to address both pediatric and adult care, infection control, and disease surveillance issues.

The approach encompasses a combination of two training activities for the participatory Quick Check+ training for clinical teams: a four-hospital clinical team training and in-hospital training for the entire clinical staff in a single hospital. Importantly, integration of these trainings will be done in a manner that will not overwhelm recipients and in a way that will be sustainable by health care systems within respective countries. In addition to implementation of trainings a follow-up mentoring schedule will be determined based on the needs of a given country.

Training Implementation

Since the initiation of this effort in early 2015, eleven training events and mentoring visits have occurred that include regional trainings of up to 4 hospital teams, and Train-the-Trainer activities. The average training has encompassed 33 participants and has been comprised of clinicians, nurses, and hospital administrators. Regions within Uganda that have hosted these trainings include Hoima Regional Referral Hospital, Mubende Regional Referral Hospital, and Kiboga General Hospital.

An additional 25 training events utilizing the IMAI Quick Check+ materials have been scheduled throughout Phase 1 (11 events) and Phase 2 (14 events) periods of performance (Table 1), encompassing Regional, In-hospital, and Train the Trainer (TOT) activities. Many of the Regional trainings run concurrently encompassing a pre-defined Region One and Region Two cohort of participants.

The Regional and In-Hospital courses will be conducted in several classrooms for managers, district clinicians, nurses and auxiliaries, with the clinical team from each hospital. Practical sessions will include putting on personal protection equipment, case scenarios with expert patient-trainers, and facilitation skills. During the initial training event, potential future trainers will be identified based upon their test scores and competency in the practical sessions. These participants will receive Train the Trainer instruction during a unique training event. The overall goal of the TOT training is to increase the pool of competent hospital and regional facilitators in which the Quick Check+ course may be independently provided, thus improving the region's capacity for disease detection and treatment.

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Table 1. Updated Training Schedule

Phase	Start Date	End Date	Activity (ToT, Regional, or In-Hospital)	Region	Number of Hospitals to assess/train	Location	Facilities
1	20-May-15	23-May-15	ToT	Arua	NA	Arua RRH	NA
1	25-May-15	29-May-15	Regional	Arua	5 hospitals	Arua RRH	Arua; Kuluva Church of Uganda; Holy Family Hospital Nyapea; Angal St. Luke's; Nebbi
1	8-Jun-15	12-Jun-15	Regional	Arua	4 hospitals	Arua RRH	St Joseph's Maracha; Yumbe; Moyo; Adjumani
1	6-Jul-15	10-Jul-15	In-hospital	Rwenzori	1 hospital	Fort Portal RRH	Fort Portal RRH
1	23-Jul-15	25-Jul-15	ToT	Kabale	NA	Kabale RRH	NA
1	27-Jul-15	31-Jul-15	Regional	Kabale	4 hospitals	Kabale RRH	Kabale RRH; Rugarama; Kambuga; Bwindi
1	27-Jul-15	31-Jul-15	Regional	Kabale	4 hospitals	Kabale RRH	Kisoro; Mutolere; Kisiiza; Nyakibale
1	6-Aug-15	8-Aug-15	ToT	Mbarara	NA	Mbarara RRH	NA
1	10-Aug-15	14-Aug-15	Regional	Mbarara	5 hospitals	Mbarara RRH	Mbarara RRH; Ibanda; Itojo; Ishaka Adventist; Mayanja Memorial
1	10-Aug-15	14-Aug-15	Regional	Mbarara	4 hospitals	Mbarara RRH	Comboni; Kitagata; Ruharo Mission; Rushere Community
1	27-Aug-15	29-Aug-15	ToT	Gulu	NA	Gulu RRH	NA
2	31-Aug-15	4-Sep-15	Regional	Gulu	4 hospitals	Gulu RRH	Gulu RRH; Kalongo; Lacor; Gulu Military
2	31-Aug-15	4-Sep-15	Regional	Gulu	3 hospitals, 1 HC IVs	Gulu RRH	Kitgum; St. Joseph's; Anaka
2	24-Sep-15	26-Sep-15	ToT	Masaka	NA	Masaka RRH	NA
2	28-Sep-15	2-Oct-15	Regional	Masaka	4 hospitals	Masaka RRH	Masaka RRH; Villa Maria; Lyantonde; Kitovu
2	28-Sep-15	2-Oct-15	Regional	Masaka	2 hospitals, 2 HC IVs	Masaka RRH	Rakai; Kalizo; Kalangala HC IV; Ntuusi HC IV
2	22-Oct-15	24-Oct-15	ToT	Lira	NA	Lira RRH	NA
2	26-Oct	30-Oct	Regional	Lira	4 Hospitals	Lira RRH	Lira RRH; Amai; Apac; Aber
2	26-Oct	30-Oct	Regional	Lira	4 HC IVs	Lira RRH	Amach HC IV; Dokolo HC IV; Aboke HC IV; Orum HC IV
2	9-Nov	13-Nov	In-hospital	Kabale	1 hospital	Kabale RRH	Kabale RRH
2	26-Nov	28-Nov	ToT	Kampala	NA	Naguru RRH	NA
2	30-Nov	4-Dec	Regional	Kampala	5 hospitals	Naguru RRH	Kayunga; Nkokonjeru; Nkozi; Bombo
2	30-Nov	4-Dec	Regional	Kampala	5 hospitals	Naguru RRH	Naggalama; Nakaseke; Nakasongola; Entebbe
2	11-Jan	15-Jan	In-hospital	Mbarara	1 hospital	Mbarara RRH	Mbarara RRH
2	1-Feb	5-Feb	In-hospital	Gulu	1 hospital	Gulu RRH	Gulu RRH

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Communications Protocols

Metabiota will maintain open communications with international collaborators necessary for implementing the training, to include regional partners facilitating the training engagement and logistics. In addition, Metabiota will maintain routine communication with CBEP to ensure they have full visibility on the training engagement, status and process of execution.

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Timeline

- Trainings
  - ToT Arua
  - Regional Arua
  - Regional Arua
  - In-hospital Rwenzori
  - ToT Kabale
  - Regional Kabale
  - Regional Kabale
  - ToT Mbarara
  - Regional Mbarara
  - Regional Mbarara
  - ToT Gulu
  - Regional Gulu
  - Regional Gulu
  - ToT Masaka
  - Regional Masaka
  - Regional Masaka
  - ToT Lira
  - Regional Lira
  - Regional Lira
  - In-hospital Kabale
  - ToT Kampala
  - Regional Kampala
  - Regional Kampala
  - In-hospital Mbarara
  - In-hospital Gulu
- Reporting
  - June
  - July
  - August
  - September
  - October
  - November
  - December
  - January
  - February
  - Deliverables (TEPs and TTRs)

Deliverables

- Submission of the TEP, Travel Authorization and CCRs for each training event.
- Submission of TTRs (Travel Trip Reports) five days after training completion.

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Risk Management

In order to maintain course action and guarantee trainings that will reduce regional risk and forward CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed below:

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Cost						
Technical Direction NTE Ceiling	The current budget with events, travel, management, procurement, and execution will exceed the ceiling for the technical direction	5	4	(b)(4); (b)(6)	Metabiota will monitor costs and work diligently to seek out the lowest costs possible for procurement and travel, as well as mitigate extended labor hours during events	**Med-High**
Inadequate funds to meet end-state program objectives	Per the LOTD, Metabiota is only to propose activities through August. The Alliance has developed a comprehensive training schedule to ensure information is effectively dissiminated and institutionalized	4	4		A subsequent budget has been proposed, allowing the Alliance to continue trainings through February. Approval of this budget would allow for additional trainings and post training mentoring/evaluations to occur.	Med
Schedule						
Submission of CCRs and TEPs	The CCR deadline is 45 days prior to travel and the TEP deadline is 60 days prior	2	5	**Med-High**	Team shall adhere to all State Department travel safety guidelines for each region.	(b)(4); (b)(6)
Project Coordination	Team dispersed over several time zones engaged in execution of training and mentoring events. Many events occurring per month.	3	4	**Med-High**	Hold routine calls with regional and country leadership, and collaborators, as needed to understand and implement technical requirements and ensure communication across the training events. Continually capture lessons learned to build upon effective communications.	
Performance						

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Safety and Security	Regions of Africa are considered a high threat for terrorism. Crime is a consistent threat.	3	5	**Med-High**	Team shall adhere to all State Department travel safety guidelines for each region.	Med
Logistics Coordination	There are a lot of moving pieces to get all equipment, trainers, facilities, and trainees in position to execute training on the required timeline	3	4	**Med-High**	Communicate with CLS frequently to ensure in-country support is achieved, with local vendors.	(b)(4); (b)(6)
Unified Goals	Ministries of Health and Regional CDC and other NGOs differ in independent objectives and scope.	4	3	Med	Metabiota will engage all local Ministries and Organizations as groups and individually, to ensure communication and unification of objectives	
Participant Engagement	Several cultural differences exist in Africa that impacts their ability to engage. These differences include: expected remunerations, levels of accommodations, and gender disparities.	3	3	Med	Metabiota will research each country and region that activities will occur to determine presence of cultural uniquenesses, and strategies to overcome potential obstacles to participant attendance.	

Identifying and acknowledging the risks associated with not implementing this training, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix (above).

Cost Management

The Metabiota team and all partners will maintain an intense focus on cost management to ensure that the training is delivered at a reasonable cost to the government. Our team will ensure accurate and responsive financial reporting and will facilitate cost savings to the Government wherever possible. Metabiota will follow procurement regulations ensuring the best price is received under the time constraints using all means available.

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Budget Narrative

Period of Performance

The technical narrative captures activities required to effectively bolster capabilities of clinical personnel working in hospitals throughout Uganda. A period of performance has been proposed, which exceeds guidelines presented in AEP Letter of Technical Direction – 008 (TD-008). To this end, Metabiota has provided two budgets: 1) Captures activities defined by TD-008 (ending 31 August 2015) and 2) Optimal period of performance to accomplish end-state objectives (ending 28 February 2016)

Labor

The labor budget is focused on overall program management, material enhancements, training, mentoring and monitoring after training in an effort to expand improvements in case recognition, reporting, clinical care and infection control to more hospitals.

The Alliance brings a wealth of clinician training experience, which is specialized for working in the developing world. Given the relative newness of this organization and considering their origins were based out of non-governmental organizations, the Alliance will require assistance navigating aspects of coordination with the Prime contractor (Metabiota) and the Client (DTRA), including program management, scheduling of training activities, and Contract Data Requirements Lists (CDRL; Training Event Plans, Training Activity Reports, Monthly Progress Reports, etc.). To this end, Metabiota is proposing a program management team, consisting of Program and Training Managers, to continue supporting the Alliance with implementation of objectives in Uganda, as outlined within this scope of work.

Costs for direct labor to support this activity is required for the following personnel:

Program Manager(s): All aspects of program operations and administration, material adaptation, management of training, and implementation will be overseen by the Program Managers (PM) for Metabiota and the Alliance. The PM's will manage cost, schedule and performance of the program, including all required DTRA CBEP deliverables. In addition, PM's will manage all proposed activities with the Metabiota SMEs and the Alliance and its partner "Walimu". The PM's will work with Metabiota leadership and financial divisions to support the program's execution, and ensure that deliverables meet quality standards and requirements. The PM's will also develop best practices to improve program performance, and mine and coordinate resources to overall benefit this program.

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SME III, II and I: In preparation for training delivery and implementation in Africa, Metabiota SME's will work closely with (b)(6) and her team, which include a cache of physicians with decades of experience operating within Africa, on collaborations and engagements with the MoH of Uganda. Periodically, Metabiota SMEs will also travel with the Alliance to Uganda for strategic planning activities and to participate in clinician training events. Our collective team of SME's will engage with the in-country subcontractors, "Walimu", for further competency building. Using their in-depth scientific and medical expertise, our SME's will review and provide input to training reports and materials.

Scientific Mentor: Assistance with overseeing the training events, mentoring local nationals, and providing recommendations for additional material content will be guided by the Scientific Mentor. As a leader in their field, the Scientific Mentor will support collaborations between groups both regionally and internationally. On mentoring visits, the Scientific Mentor will work with hospital staff and administrators to identify barriers to reporting notifiable conditions and to improve triage of severely ill patients and their effective case management.

Research and Data Analyst: Support of the programs' research, data entry and analysis will be provided by the Research and Data Analyst (RDA). The RDA will also support material and deliverable production and submissions. Organization of program documents, and archiving of materials will be an important responsibility of the RDA. The RDA will also assist in the management of internal and stakeholder meetings and execution.

Additional costs for direct labor supporting the Deputy Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Collectively, the aforementioned personnel will coordinate efforts to support the following activities:

Training and Mentoring After Training

A substantial number of training courses will be carried out using several approaches to training – a training for clinical teams from district hospitals (usually at the regional hospital), in-hospital training for larger hospitals. Several facilitator ToT short courses would be conducted for 3 days prior to clinical team training.

Training Reinforcement: Mentoring and Physical Improvement to Improve Care and Notification Process

Facilitators on mentoring visits will work with hospital staff and administrators to identify barriers to reporting notifiable conditions and to improve triage of severely ill patients and their effective case management. Examples of physical improvement which fit within a modest budget include adding signs and trolleys to improve patient flow in the emergency area, physical modifications to isolate infectious patients and locate severely ill patients near the nursing station, adding secured blood pressure cuffs and thermometers to identify severely ill

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patients, and tools such as clipboards and notice boards to ensure records are retained and organized for accurate reporting. Clinical training facilitators and Alliance staff will deliver the package of hospital improvements and ensure staff are capable of conducting case notification through the Uganda DHIS 2 health management information system.

Assessments Before and After Training

Facility assessments use a standardized questionnaire and surveyor observations, which complement the WHO/USAID SARA-H hospital assessment (which lacks questions on adult emergency triage and management of adult severely ill patients). In addition, an on-site clinical observer with data entry capacity will conduct case observation and observe success in reporting notifiable diseases and improving case management at the hospital before and after the training. Data will be collected on low-end smartphones and reported through Commcare, a tool used by the WHO, Brac, PATH and Partners in Health among others and supported by USAID and the UN and Gates Foundations, among others. The data is analyzed using the DHIS 2 software, a health management information system used by the MoH in Uganda.

The Alliance is committed to capacitating national staff and supporting their substantial role during in-country project management, as well as, utilizing them as a source of subject matter expertise and clinical facilitation and mentoring.

Materials

Communications

Cost for international cell phone services and data plans, airtime for project staff, laptop modems for country team laptops required to establish a reliable and stable Internet connection for reporting and other online needs, to include maintaining communication in remote areas.

Printing

Printing of all necessary training materials will be managed by Walimu and the Alliance.

Office and Medical Training Materials

These materials, supplies, and minor equipment will be used for implementing training, as well as programmatic coordination between management in the US and Kampala, Uganda. Minor office supplies include computer equipment such as laptops, docking stations, large screens, printers, scanner, photocopier, and software.

Each trained clinical team is provided with a pulse oximeter for individual clinical use/further training of other clinicians in hospital and a hospital-grade pulse oximeter with replaceable probes. No single piece of equipment exceeds $5,000.

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Training Event Logistics

Conference Services are required, as a venue is needed for practicum section of the training events to house participants, trainers, and additional Metabiota and CBEP personnel attending the event. Conference services will include on-site catering to facilitate completion of the training within an efficient timeframe.

To date, the Alliance managed all training costs, including venue, food, per diem, transportation (for facilitators and participants), training supplies, projectors, communication costs, and all printing needs as well as their shipment and clearance into country and delivery to the training venues, as allowed in the originally approved proposal. Metabiota will transition the training logistics costs to CLS for scheduled August trainings, as well as all Phase 2 trainings, if approved/awarded. However, June and July training events have been scheduled and approved, making the involvement of CLS challenging due to an extremely short suspense.

Shipping costs

All materials procured within the US will be shipped to Uganda via CLS' Single Shipper mechanism. Shipping costs for movement of training materials and supplies generated or procured in Uganda have been budgeted and will be managed by Metabiota, the Alliance, and Walimu.

Other Direct Costs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA costs were based (b)(6) of the total compensation for all personnel when operating in Uganda.

Subcontracts

A Subcontract will be issued to the Alliance for time provided by their Trainers, as well as materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested for Metabiota and Alliance personnel to travel to and within Uganda to continue implementation of clinician training activities. Personnel will be providing programmatic, administrative, operational, and technical oversight (as described in the Labor Section of this narrative) to ensure trainings are implemented efficiently. Prior to execution of travel, a cost estimate will be provided to the AEP COR for review and approval.

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Metabiota will submit CLS forms requesting travel logistics support when, and if, it is required for project participants (e.g., Trainees).

Conclusion

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP AFRICOM in the implementation of the Africa Clinician Training. Metabiota will ensure, through strong project management and risk mitigation that the training will be executed in an efficient and timely manner delivering a top quality course geared to support enhanced biosurveillance and biosafety efforts in the region.

Team Metabiota Overview

Metabiota is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science, including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in 20 countries and offices in San Francisco, Washington, China, Canada, and Sierra Leone.

Metabiota currently supports a number of Cooperative Biological Engagement Program (CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. Metabiota's mission aligns well with CBEP and the entire Metabiota team is focused on supporting our USG Partners in reducing the risk of biological threats worldwide, and employs a collaborative and agile approach to biological risk reduction.

To ensure a successful event, Metabiota, in coordination with CBEP regional leadership and in country partners have built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGO) whose respective aims could impact CBEP objectives.

Metabiota will continue to engage the Alliance for implementation of the aforementioned objectives. The Alliance is a US based non-profit non-governmental organization (NGO), which includes institutions and individuals involved in the development, country adaptation,

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and implementation of the IMAI training materials, which aim to improve disease recognition, case management of severely ill patients, and reporting of notifiable diseases in coordination with WHO standards and regulations. The Alliance works closely with WHO headquarters, AFRO and the WHO in country offices, allowing for quick in roads and rapid implementation to most developing nations, including countries in East and West Africa. The Alliance already has an established footprint in Uganda and has support from the clinical services staff in the Ugandan Ministry of Health (MoH).

The Alliance includes Walimu, a US and Ugandan based NGO, which is currently supporting the implementation of training in Uganda. Walimu is a non-profit organization made up of physicians from Uganda and the US, working to improve medical are in Uganda. Their vision to empower Ugandan health officers to address local problems in innovative ways, which will lead to the transformation of medical training and patient care to meet international standards of excellence. As a collaborator with the Alliance, Walimu serves as a bridge to Alliance-related activities and their execution in clinical services.

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Table 2 – Summary of Program Elements

Program Element	Program Tasks	Resources Required	Key Milestones and Deliverables	Projected Timeline
Continued Coordination	• Continue overall coordination with CBEP • Coordinate with the Inter-Agency Health Team at the US Embassy, Kampala, and any other relevant stakeholders Ongoing coordination with CBEP and Inter-Agency Health team prior to, during and after each training	• Program Manager • SME III • SME I • Research and Data Analyst	• Submission of CCRs • Obtain confirmation from CBEP, and other key stakeholders on proposed training dates • Submission of TEPs and TTRs	Ongoing 3-6 months prior to each training event
Plan Training Event	• Procure materials • Coordinate logistics (facilities, materials, participants) based on guidance from CBEP and Inter-Agency Health Team • Coordinate travel for trainers and trainees as required • Develop of training event plan	• Scientific Mentor • Program Manager • SME I • SME II • SME III	• Confirmation of logistics for trainers and trainees • Submission of finalized training event plans prior to implementation of each training.	1-3 months prior to each training event
Training Implementation	• Ensure trainers are equipped with all necessary materials to conduct trainings • Trainers travel to designated training site • Conduct training based on the finalized training event plan • Trainers return from training event	• Scientific Mentor • Program Manager • SME I • SME II • SME III	• Regional, initial, and ToT (Train the Trainer) training implemented • Submission of final training report	Training Event
Post-Training Visits	• Conduct mentorship visits by designated in-country mentors/trainers • Conduct follow-up site assessments/post-training visits	• Program Manager • SME III • Research and Data Analyst	• Confirm receipt of follow-up site assessment/post-training visit plan	1-3 months after each training event

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Metabiota's Technical and Cost Proposal

"DTRA/CBEP One Health Epidemiology Training in Uganda"

Technical Direction Number: TD-013
Contract Number: HDTRA1-14-C-0104
CAGE Code: 56SP4
DUNS number: 828131156
Version 6

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Executive Summary

In response to Defense Threat Reduction Agency Cooperative Biological Engagement Program (DTRA CBEP) regional leadership tasking via the Academic Engagement Partnership (AEP) contract vehicle, Technical Direction 013. Metabiota, Inc. (Metabiota) seeks to support the DTRA CBEP mission to increase One Health Epidemiology (OHE) capacity in Uganda by facilitating OHE training events. This initiative will enhance local outbreak preparedness and response capabilities of public health professionals operating in Uganda to mitigate the threat of human, veterinary, and economic loss associated with the spread especially dangerous pathogens (EDP) and associated diseases.

These proposed efforts will enhance local Ugandan capacity at the District level to conduct disease prevention, detection, surveillance and response activities. Moreover, this activity will concurrently facilitate cooperative scientific engagement amongst key stakeholders for disease detection and control in Uganda, in support of the DTRA CBEP mission.

This document outlines the approach that Metabiota will employ to accomplish the requirement. In short, Metabiota intends to:

- Facilitate the conduction of Module 1 OHE training for stakeholder-identified Cohorts 9 & 10 thereby enhancing District-level knowledge of basic epidemiology best practices;
- Facilitate the conduction of Module 2 OHE training for stakeholder-identified Cohorts 9 & 10 thereby enhancing District-level knowledge of outbreak investigations for EDPs;
- Enhance local scientific capacities by fostering collaborations and communications between participants of unique Districts in Uganda.

Project Overview

Background

In recent decades, we have experienced a dramatic increase in the rate of emergence and re-emergence of infectious diseases. On average, one new virus emerges every 19 months, most often with origins in animal populations. The threat of emerging pathogens affecting humans worldwide continues to increase; and underscores the need for effective, integrated human and animal disease surveillance, reporting, diagnostics and response capabilities.

To manage these risks, DTRA CBEP aims to reduce potential impacts of biological threats by enhancing biological safety and security (BS&S), awareness of biological risks, and knowledge related to biological pathogens globally. To do so, DTRA CBEP works collaboratively with partner nations, other USG agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health; promote safe and secure laboratory and field work environments; and consolidate pathogens of

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security concern into a minimal number of safe and secure facilities in a sustainable manner. In AFRICOM, specifically, DTRA CBEP seeks to enhance OHE capabilities and develop and maintain local and regional capacity in order to sustainably manage the threat of infectious disease events.

In support of this approach, Metabiota intends to administer high-value OHE trainings in order to support strategic DTRA CBEP objectives by enhancing local and regional collaboration on topics critical to biological threat reduction, and enhancing the regional capacity to perform biorisk management and mitigate the threat of infectious disease events. Metabiota's on-the-ground experience and decades of expertise makes it well positioned to support the implementation of this activity, as well as overall scientific engagement in AFRICOM's area of responsibility.

Goals and Objectives

Metabiota will engage with key Ugandan stakeholders including the Ministry of Health (MOH) and the Centers for Disease Control and Prevention – Uganda (CDC-UGA), to conduct a series of a One Health Epidemiology (OHE) training courses, originally developed by epidemiologists from the Walter Reed Army Institute of Research (WRAIR), for District-level health practitioners in Uganda. This OHE training series will cover basic epidemiology (Module One) and outbreak investigations (Module Two). These modules introduce basic concepts of epidemiology, statistics, outbreak investigation, surveillance, One Health, and clinical recognition of pathogens with bioterror potential.

To achieve this purpose, Metabiota and the collaborative partners will:

- Coordinate with key stakeholders in Uganda to identify up to 4 Ugandan OHE trainers to conduct OHE trainings;
- Collaborate with key stakeholders in Uganda, to ensure the identified 25-30 district representatives per cohort meet OHE training participant criteria and are able to fulfill all training requirements;
- Facilitate the conduction of Module 1 OHE training for Cohorts 9 & 10 thereby enhancing Districts-level knowledge of basic epidemiology best practices;
- Facilitate the conduction of Module 2 OHE training for Cohorts 9 & 10 thereby enhancing Districts-level knowledge of outbreak investigations for EDPs;
- Foster collaborations and communications between participants of unique Districts in Uganda.

Threat Reduction Outcomes

Through the implementation of Metabiota facilitated OHE trainings for key stakeholders in Uganda, DTRA CBEP will have:

- Increased local scientific capacities by fostering collaborations between participants of unique Districts.
- Enhanced and improved disease detection, reporting and response systems across

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Uganda.

- Enhanced the capacity to detect and diagnose diseases and emerging threats of pathogens of concern.
- Implemented laboratory management best practices and principles by following internationally accepted guidelines and standards for reporting outbreaks.

This activity will provide a measurable and achievable result in raising awareness of EDPs among DTRA CBEP AFRICOM partners and facilitating efforts in Uganda to formally educate those who play a pivotal role in disease detection and outbreak response related efforts. Moreover, this activity will concurrently promote a sub-regional network of stakeholders thereby enhancing the development of a sustainable infrastructure for advancing scientific research, including early detection of emergent threats.

Risk Management

In order to maintain our course of action and guarantee trainings that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown on the next page as Table 1. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Cost						
Communication and cultural boundaries disrupting training preparation and execution	Participants, and presenters do not have a clear understanding of logistical support	4	5	(b)(4); (b)(6)	efore the training Metabiota will pport CDC-Uganda and MoH to nsure communication is provided to articipants and presenters clearly utlines support for the training	Med
Schedule						
Submission of CCRs and TEPs	CCRs must be submitted at least 45 days prior to each event, and TEPs 65 days prior, and are dependent upon receipt of Letters of Technical Direction	5	5	(b)(4); (b)(6)	Upon receipt of the Letter of Technical Direction, Metabiota shall immediately submit all DTRA required travel documents	**Med-High**
Performance						

						(b)(4); (b)(6)
Ability to Collaborate with MoH Uganda	Trainers from the MoH Uganda are required for effective implementation	4	2	Med	Metabiota will directly engage MoH trainers to ensure buy-in and support	
Logistics Coordination	Russian based logistics company that is locally staffed, which can lead to misinterpretation of vital information	3	3	Med	Metabiota will directly engage both Russian and local based offices of TTTI/CLS	

Implementation Plan

Introduction

Metabiota will employ its existing organizational leadership to interface with the Regional Science Manager and Country Manager, as needed, to direct the operational and administrative support required to ensure implementation of the OHE Training. Our Program Manager will oversee administrative and operational functions, with the support of a project manager, travel coordinator, SMEs, trainers, and mentors to ensure that all aspects of cost, schedule, and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Communications Protocols

Metabiota will maintain open communications with international collaborators necessary for implementing the training, to include local and regional stakeholders. In addition, Metabiota will maintain routine communication with DTRA CBEP to ensure they have full visibility on the training engagement, status, and process of execution.

Technical Approach

Components of Technical Approach

Metabiota will use the following technical approach to manage all tasks required for successful implementation of the project components and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. The following components will be executed concurrently and are required for this project:

Phase 1: Program Management and Coordination
Phase 2: Training Administration
Phase 3: Training Implementation

Component 1 – Program Management and Coordination (June 1, 2015 – February 29, 2016)

Objective: Coordinate with key in-country stakeholders to ensure trainers are properly oriented with the OHE training materials and training plan, participants meet criteria and have

committed to fulfilling all requirements, and ensure responsible parities for contingent steps (logistics planning, participant coordination, trainer coordination, etc.) are identified and able to fulfill responsibilities within time, budget, and scope.

Process: Metabiota, in coordination with DTRA CBEP and key in-country stakeholders, will establish a communication plan and responsibility matrix for the conduction of the four OHE trainings, covering Module 1 and 2 for Cohorts 9 and 10. The project team will coordinate to finalize the trainer and participant lists for each cohort and training (4 trainings total, 4 Uganda based independent consultant trainers per training, 3 Metabiota personnel working in a management and oversight capacity per training, 25-30 participants per cohort) and ensure all parties involved are able to participate in full and fulfill all training requirements.

Metabiota will coordinate with local partners to disseminate timely and accurate correspondences and Letters of Invitation (LOIs) to all participants and trainers. Metabiota will coordinate with CLS for all participant and event logistics, as well as for the procurement of any necessary materials and training supplies.

Metabiota will hold bi-weekly meetings with CDC Uganda to ensure that the schedule for dissemination of LOIs remains on target. Metabiota also utilizes these exchanges to coordinate and communicate the status of the LOIs to the DTRA COR. These bi-weekly meetings additionally enhance communication between stakeholders and provide insight into any potential gaps in performance.

Deliverables (Program Management) – All deliverables associated with Component 1 are associated with overall program management to ensure effective implementation of the all project objectives:

- Deliverable #1: Effective communications between all stakeholders to ensure all project activities are efficiently executed in accordance with Client and Host Country expectations and guidelines; including delivery of meeting minutes during stakeholder calls.
- Deliverable #2: Maintain project schedules to ensure implementation of high-quality trainings within proposed project budget and in accordance with the technical approach (above);
- Deliverable #3: Maintain client, stakeholder, and contractor relationships;

Component 2 – Training Administration (July 1, 2015 – February 29, 2015)
Objective: Develop quantitative and qualitative evaluations of all training Module 1 and Module 2 events. Provide lessons learned and recommendations in After Action Reports (AARs).

Process: Metabiota, in coordination with in-country stakeholders and Ugandan OHE trainers, will conduct both daily evaluations and pre- and post-training testing in order to develop a

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comprehensive evaluation of the training implementation. After the completion of all four trainings and data analysis, Metabiota will develop a comprehensive qualitative and quantitative evaluation of the training implementation.

Deliverables:

- Deliverable #1: Develop all pre training related documentation and CDRLs - Responsibility Matrix. Training Event Plans (TEPs), CLS forms, and Finalized Trainer and Participant Lists;
- Deliverable #2: Development of After Action Report;
  -After Action Reports will contain in-depth recommendations, detailed lessons –learned, and further insight for the DTRA COR.

Component 3 – Training Implementation (July 1, 2015 - February 29, 2015)
Objective: Facilitate the conduction of Module 1 and 2 OHE trainings (5 days each) for Cohorts 9 and 10 in the Jinja and Hoima Districts, respectively, and provide technical and programmatic support for the trainers and participants to complete of interim training requirements between Modules 1 and 2. Additionally, Metabiota will support and encourage collaboration and communication establishment amongst participants, with a focus on neighboring Districts, throughout the training sessions and the interim activities.

Process: Metabiota, in coordination with DTRA CBEP and key in-country stakeholders, will facilitate the four OHE trainings. In order to provide the Ugandan stakeholders with both technical and programmatic support and ensure project goals and objectives are being met, Metabiota trainers and, potentially, a scientific mentor will travel to each of the four trainings. Metabiota will conduct pre- and post- training testing as well as hold daily feedback sessions with the Ugandan trainers to identify gaps, reorient (if necessary) training approaches, and discuss lessons learned.

Deliverables:

- Deliverable #1: Submission of daily training evaluations and participant feedback;
- Deliverable #2: Submission of four Training Trip Reports (TTR)
  -providing high level overview of the trainings and highlighting next step recommendations and cohort and module-specific lessons learned.
  -Contractually required through CDRL 15

The below table describes the detailed technical approach that Metabiota will take to complete this effort and provide the required deliverables. The following table (Timeline) describes the anticipated timeline of each phase.

Timeline

2015:

Training	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15
Mod 1					Cohort 9		Cohort 10
Mod 2							Cohort 9

2015/2016:

Training	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16
Mod 1						
Mod 2		Cohort 10				

Management Approach

Project Team Structure

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the Program Manager, Project Coordinator, Training Coordinator, Trainers, SMEs and Local National trainers, that will be tasked with specific assignments to support the development and implementation of training based on their administrative and scientific expertise. This team of experts will ensure the overall project management and tasks associated with this effort are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.

Initiation

Prior to initiating any action, Metabiota and DTRA CBEP will secure a clear understanding of the objectives and mission of this undertaking, and make sure all stakeholders agree to it. Following authorization to proceed by DTRA CBEP, Metabiota will move into the planning and execution of the community outreach and regional workshop activities.

Execution

The core project management team will maintain oversight and implementation of the project at all times and will ensure rapid execution of this effort, tracking objectives to ensure the project stays on schedule to complete the training modules. The project will be managed according to the phased implementation plan and will be course-corrected, as needed, to ensure target end-

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goals are met. The following tools will be used to guarantee the project schedule will be maintained:

Project Administration:

1. Weekly team meetings and conference calls will be held to internally review the project achievements, accomplishments, barriers, or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Coordinator and will include the Program Manager, Training Coordinator, SMEs, and AEP leadership, as needed, based on the requirements and stage of implementation. Routine twice montly calls and communication will be held with between DTRA CBEP regional leadership and Metabiota to provide routine status updates and ensure project implementation expectations are met. Routine twice monthly calls will also be held between Metabiota, DTRA CBEP regional leadership and local stakeholders to ensure project coordination expectations are met.

Project Reporting:

1. Weekly status reports will be provided by the Program Manager to senior Metabiota leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction as needed to ensure training goals are met.

Monitoring and Controlling:

1. Routine risk assessment will continue to be performed internally among the Metabiota project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with DTRA CBEP regional leadership to ensure the project remains on track and is implemented according to standard. Routine oversight and coordination will be performed to ensure subcontractors are meeting contract requirements to ensure successful planning and execution of the training. Monitoring will include both administrative and fiscal oversight when appropriate.

Completion:

Metabiota will drive the project to completion in a timely manner by maintaining a focused project schedule with routine meetings and communication with DTRA CBEP regional leadership. This will allow for continued coordination, while maintaining targeted objectives. As the activity progresses, Metabiota will provide all required deliverables and after action reports to allow for lessons learned and continuation of solid execution and implementation of activities. Metabiota believes that the experience and management it will bring to this project, in collaboration with DTRA CBEP will guarantee success.

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Cost Management

The Metabiota team and all partners will maintain an acute focus on cost management to ensure that the training is delivered at a reasonable cost to the government. Our team will ensure accurate and responsive financial reporting and will facilitate cost savings to the Government wherever possible. Metabiota will follow procurement regulations ensuring the best price is received under the time constraints using all means available.

Budget Narrative

Period of Performance

The Period of Performance for this effort is May 16, 2015 to February 29, 2015.

One Health Epidemiology Uganda is a legacy project that allows Metabiota to incur costs immediately as the proposed period of performance begins, and regardless of a DTRA CBEP decision to move forward. In kind, our team accrued a total of 215 hours during this period to design and develop the proposal. This effort involved a total of 93 program management hours, 84 research and data analyst hours, 16 SME III hours, 16 SME I hours, and 6 Trainer I hours.

The original period of performance was altered from May 16, 2015 through December 31, 2016 to May, 2015 through February to allow for the planned execution of both module 1 and module 2 of cohort 10. The postponement of Cohort 9 from its original schedule dictated a need to shift the trainings accordingly.

Labor

Costs for direct labor to support this activity is required for the following personnel:

- Metabiota Program Manager: (b)(6) will oversee the execution of program objectives towards the completion of DTRA CBEP goals at the regional level, and will lead communication with DTRA CBEP for this activity. (b)(6) will do so by maintaining oversight of stakeholder coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. (b)(6) will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables erstwhile ensuring the program remains within scope, budget, and timeline. Additionally, prior to (b)(6) arrival and as part of his onboarding process, program management responsibilities were shared by Metabiota Program Manager (b)(6). As of July 7th 2015 and throughout the remaining period of performance (b)(6) will be the sole Program Manager for this effort.
- Metabiota Project Coordinator (Research and Data Analyst; RDA) (b)(6) will ensure the execution of project objectives towards the completion of DTRA CBEP goals at the project level. (b)(6) will do so by supporting stakeholder coordination and project execution, with a focus on project milestone achievement and stakeholder buy-in development and maintenance. (b)(6) will regularly communicate project status

with [redacted] and will assist [redacted] ticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. [redacted] will also assis[redacted] in ensuring all project requirements and deliverables are fulfilled while concurrently ensuring the project remains within scope, budget, and timeline.

- Metabiota Technical Manager (Trainer III) [redacted] will oversee all aspects of the execution of the training events. [redacted] will submit and track all Training Event Plans (TEPs), Training Trip Reports (TTRs), and After Action Reports (AARs) [redacted] ill also direct and manage the local trainers, ensuring optimal execution of all training objectives. [redacted] will manage in-country stakeholders and project execution, with a focus on buy-in maintenance. [redacted] will direct feedback sessions with the local trainers daily, along with the Scientific Mentor, to discuss training material, lessons-learned, and review survey results from the participants. In addition [redacted] will support [redacted] in ensuring the program remains within scope, budget and timeline [redacted] s contribution to this effort will have discontinued from 08/01/2015.
- Metabiota Training Administrator (Trainer I)- [redacted] MPH will play a vital role in implementation, coordination, and reporting. He will travel to the field for trainings and lead reporting efforts. He will additionally support [redacted] by attending meetings and communicating with relevant stakeholders. From a technical perspective he will use his expertise to support the administrative efforts of [redacted] during field trainings and in the development of After Action Reports (AARs) and Training Trip Reports (TTRs).
- Metabiota Subject Matter Expert (SME III)- [redacted] MD, PhD is an internationally known expert in epidemiology, virus ecology, viral hemorrhagic fevers, fundamentals and domains of disease emergence. Since the 1970s, he has been leading international teams with partner institutions of developing countries (Dakar, Senegal; Bangui, Central African Republic). He largely contributed to developing tools and implementing strategies for the control and prevention of transmitted disease, and has been published in more than two hundred scientific papers in peer-reviewed journals [redacted] will support the OHE training programs by mentoring the local trainers and District participants in outbreak investigation and response best practices. In addition, [redacted] will facilitate the scientific collaborations and support daily training implementation discussions.
- Metabiota Project Support Staff (SME I)- [redacted] was involved in supporting the development of the Technical proposal and budget for OHE Uganda. Her involvement in this project will have discontinued from 08/01/2015.
- Metabiota Regional Trainer and Mentor (Trainer I)- [redacted] based in Sierra Leone, is a recognized epidemiologist focusing in VHF contact tracing and rapid response systems. [redacted] as lead on-the-ground teams of health workers investigating VHF outbreaks and clusters [redacted] ll serve as a regional scientific mentor to both the participants and the local trainers. In addition, [redacted]

will facilitate and support scientific collaborations and provide lessons-learned from his field experience while operating in the recent/ongoing Ebola outbreak in West Africa.

- Metabiota Local Trainers (Research and Data Analyst)- (b)(6) (b)(6) will serve as lead trainers of the OHE modules 1 and 2 material. Each trainer is a Ministry-recognized and selected expert in the areas of outbreak investigation, surveillance, and response. They will execute the pre- and post-tests, as well as the daily surveys from the participants. The Trainers will lead small group sessions in a 1:6 ratio, and support and guide the participants' working projects that occur between modules. Working closely with (b)(6) (b)(6) the Trainers will implement all OHE training materials including lectures, computer enrichment sessions, and exercises.

  Although this was not the case when the budget was originally developed, we have noted the Ambassador's memo stating that MOH employees as well as Government of Uganda employees in general are no longer able to receive salary supplements. With respect to this issue, our communication with in-country performers thus far has yielded confirmation stating that all of our IC trainers will not be non-MOH/non-GoU employees.

  The fourth trainer mentioned is designated as TBD for the fact that the originally identified individual was in-fact an employee of the Government of Uganda. It has been determined that the hours designated are still necessary, and will be assigned to an appropriate candidate that is yet to be identified by local stakeholder CDC Uganda. Thus it would behoove us to maintain this number of available hours without assigning them specifically.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials

Minor materials and supplies are required to support project activities including stakeholder outreach and coordination, training material production, and host country approval facilitation. Materials will include:

International Communication-Semi-monthly stakeholder meetings will occur to coordinate all upcoming trainings in-county. Internet systems and international calls will be utilized for this effort. Routine updates will take place via e-mail.

Printing Services- One set of OHE Modules 1 and 2 books, for 25 participants, and one set of Instructor Manuals, for 2 trainers, will be required. It is assumed that CLS will manage printing of all necessary materials. Metabiota will prepare the necessary documentation (e.g., CLS request forms) when seeking support for this activity.

Other Direct Costs

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Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all project participants in accordance with DBA guidelines.

Subcontracts

Local trainers may be utilized for execution of the training and will be subject to an Independent Consultant agreement.

Travel

Funds are requested for three Metabiota personnel (two CONUS, one OCONUS) to travel to Uganda to facilitate each training event, four in total. Specifically, funding has been budgeted to support travel for two Metabiota personnel from CONUS for training implementation and oversight purposes. Additionally, in an effort to promote regional networking and capacity development, Metabiota has also budgeted travel funds for a Sierra Leonean field epidemiologist (e.g. (b)(6) to air in training implementation. Metabiota staff will support project implementation, coordinate stakeholders, and provide technical support for Ugandan OHE trainers. Metabiota staff will hold daily feedback sessions with the trainers prior to beginning coursework for the day, and support computer enrichment activities that follow each evening. Prior to execution of travel, a cost estimate will be provided to the AEP COR for review and approval. Metabiota will submit CLS forms requesting travel logistics support for participants (e.g., Trainees).

Ground Transportation (b)(6) s an epidemiologist (Trainer I) based in Sierra Leone. He will inevitably be arriving at the Entebbe International Airport at a different time and with a different airline carrier than DC based Metabiota staff. Thus with respect to both safety and timliness, we saw it necessary to provide him with individual and seperate transport upon arrival, and before departure. Washington, DC based staff will share ground transport with eachother for both arrival and departure. Once James makes contact with other Metabiota Staff members he will be sharing all in country ground transportation with them.

Conclusion

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP AFRICOM in the implementation of the One Health Epidemiology Training in Uganda. Metabiota will ensure, through strong project management and risk mitigation, that the training will be executed in an efficient and timely manner, delivering a top-quality course geared to support enhanced biosurveillance and biosafety efforts in the region.

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Appendix A - Team Metabiota Overview

Metabiota is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science, including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in 20 countries and offices in San Francisco, Washington, China, Canada, and Sierra Leone.

Metabiota currently supports a number of Defense Threat Reduction Agency's Cooperative Biological Engagement Program (DTRA CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. Metabiota's mission aligns well with DTRA CBEP and the entire Metabiota team is focused on supporting our USG Partners in reducing the risk of biological threats worldwide, and employs a collaborative and agile approach to biological risk reduction.

To ensure a successful event, Metabiota, in coordination with DTRA CBEP regional leadership and in-country partners have built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGO) whose respective aims could impact DTRA CBEP objectives.

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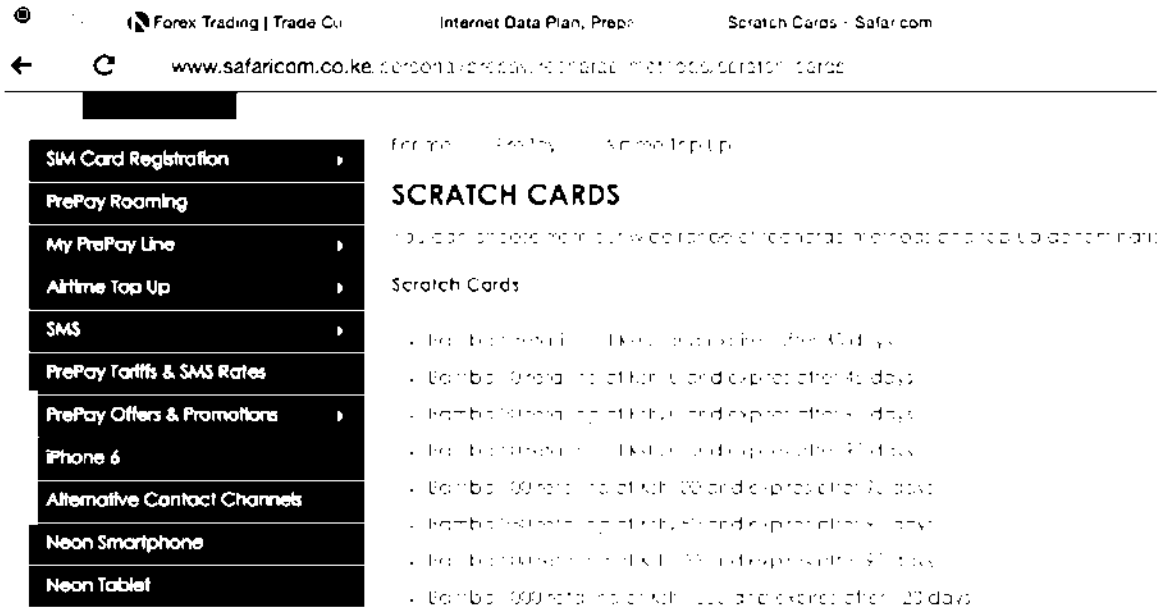
CLIN 1003 Materials Support:

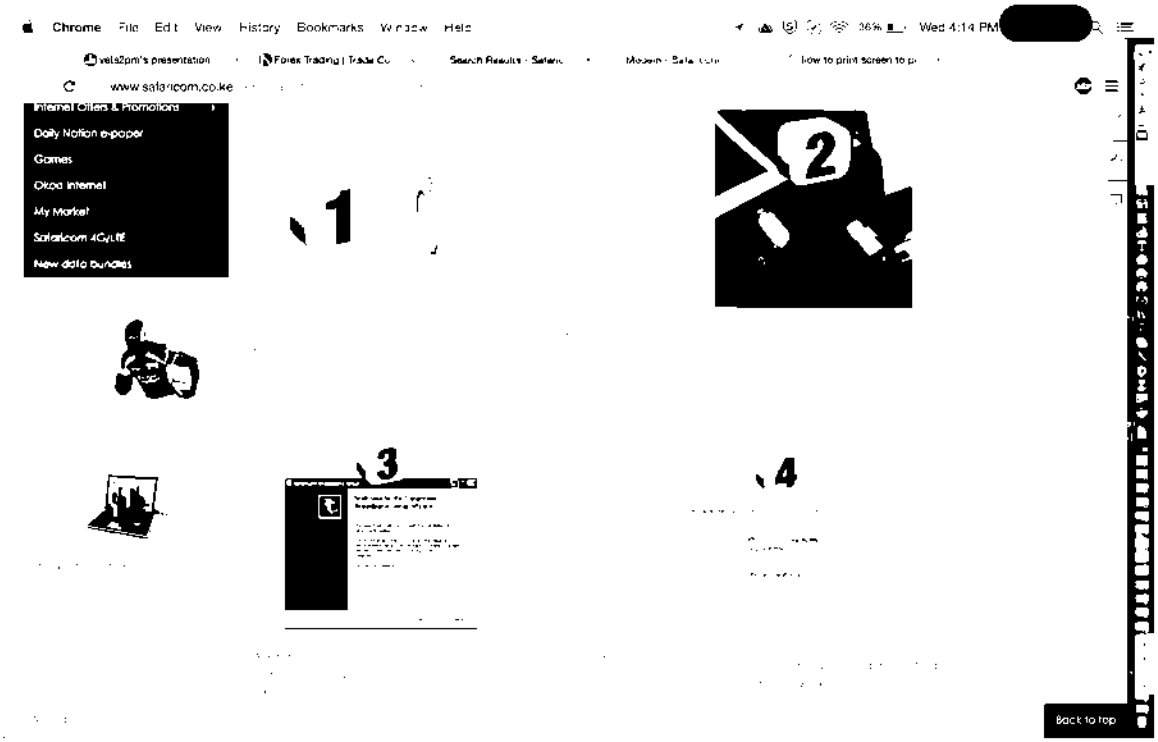
Total Quantity	Item Description	Unit Cost in Kenyan Schillings	Total Cost in Kenyan	Total Cost in US Dollars
4	USB Modem	1999.00	7996.00	77.00
4	12 GB Data Plan	3000.00	12,000	115.56
20	Top up scratch card for domestic and international calling.	1000.00	20,000	192.61
[redacted]	Totals		39,996.00	385.17

Reference:

Top up scratch cards:



USB Modems: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www.safaricom.co.ke
Internet Offers & Promotions
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Okoa Internet
My Market
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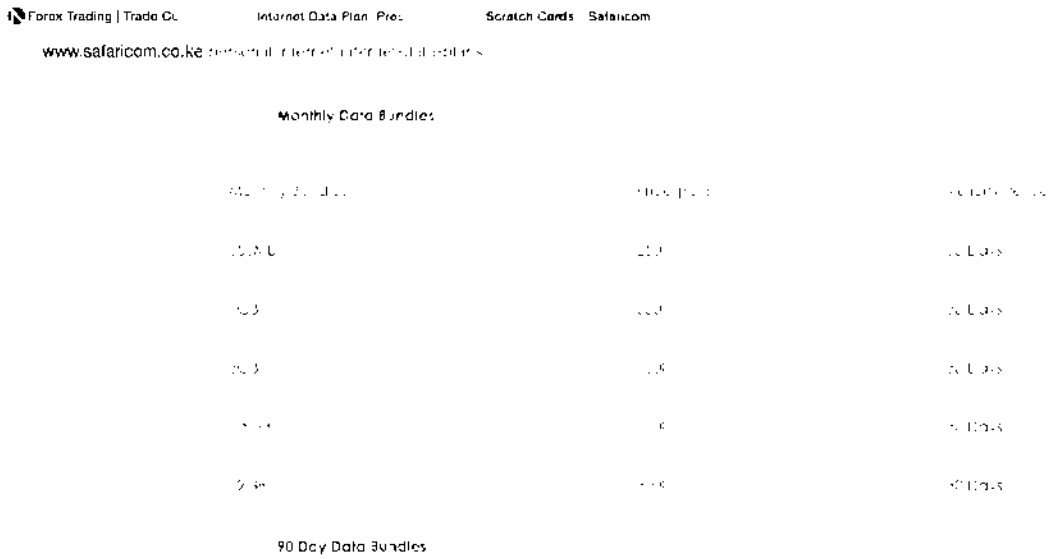
Data Plan:


Forex Trading | Trade Cc
Internet Data Plan Prices
Scratch Cards
Safaricom
www.safaricom.co.ke
Monthly Data Bundles
90 Day Data Bundles

Conversion Rate.

OANDA

Currency Converter

Tuesday, Sep 15, 2015

Currency I Have:
385.184 USD

Currency I Want:
39,996.00 KES

USD/KES Details

Tuesday, Sep 15, 2015

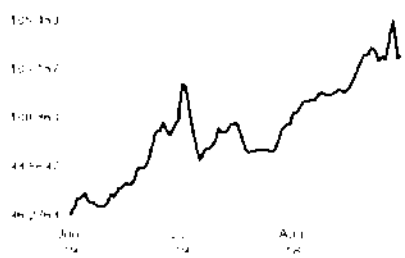
Selling 385.184 **USD** → you get 39,996.0 **KES**
Buying 385.184 **USD** → you pay 41,346.0 **KES**

Rate Details

Tuesday, Sep 15, 2015

	Bid	Ask
MIN	103.570	105.500
AVG	**103.836**	107.341
MAX	105.500	107.530

Recent Trends



Take trusted OANDA Rates™ with you on your travels

USD/KES OANDA

Interbank Rate
Sep 16, 2015

USD	KES	USD	KES	USD	KES
1	103.84	15	1,557.54	45	4,672.62
2	207.67	20	2,076.72	50	5,191.80
3	311.51	25	2,595.90	100	10,383.6
4	415.34	30	3,115.08	250	25,959.0
5	519.18	35	3,634.26	500	51,918.0
10	1,038.36	40	4,153.44	1,000	103,836

KES/USD OANDA

Interbank Rate
Sep 16, 2015

KES	USD	KES	USD	KES	USD
100	0.93	1,500	13.97	4,500	41.92
200	1.86	2,000	18.63	5,000	46.58
300	2.79	2,500	23.29	10,000	93.16
400	3.73	3,000	27.95	25,000	232.90
500	4.66	3,500	32.61	50,000	465.81
1,000	9.32	4,000	37.26	100,000	931.61

From: (b)(6)
To:
Cc:

Subject: RE: [Non-DoD Source] Metabiota Request for Travel Authorization - TD004 MESA Epigenetics and Genomics Workshop
Date: Tuesday, December 8, 2015 9:18:48 AM

Approved.

Cheers,
(b)(6)

Email (b)(6)
Phone
Mobil

-----Original Message-----
From (b)(6)
Sent: Thursday, December 03, 2015 10:39 AM
To (b)(6)
Cc
(b)(6)
DTRA J3-7 (US)
Subject: Re: [Non-DoD Source] Metabiota Request for Travel Authorization - TD004 MESA Epigenetics and Genomics Workshop

Dea (b)(6)

Thank you very much, and we completely understand. If you require any additional information, at anytime, please let me know. We will keep you updated on all travel arrangements once final approval to proceed is received b (b)(6)
(b)(6) and ensure the information is clearly communicated and provided to CLS, as appropriate for logistical arrangements.

Kind regards (b)(6)

(b)(6)
Southeast Asia Program Manager AEP
Metabiota Inc.
(b)(6)

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On 12/2/15, 9:15 PM, (b)(6) wrote:

>Thank you (b)(6) This helps so much to help understand the cost break out for the CLS. We just had to do our due diligence to make sure we got this first CLS right so that all others for this conference will be easy and on budget.

>(b)(6)

>We see no more issues and would concur with this travel request. (See below for specifics).

>

>Best,

>(b)(6)

>

>-----Original Message-----

>From: (b)(6)

>Sent:

>To: (b)(6)

>Cc

>Subject: Re: [Non-DoD Source] Metabiota Request for Travel Authorization - TD004 MESA Epigenetics and Genomics Workshop

>

>H (b)(6)

>

>I hop u had a wonderful holiday and I am sorry I missed your call on Monday! I have arrived in Almaty and met w ndrey (b)(6) his evening. All international shipments have arrived at IVM, and things are in place with the Institute for the training. We will spend the day there tomorrow to go through inventory, logistics, administration, and materials review. I will keep you posted if anything comes up, but otherwise we are looking good!

>

>As we didn't have a chance to chat, I wanted to respond to your below email. I completely understand your concern regarding costs for this event, and we are tracking costs to ensure we are within budget. The TAF submitted is a ROM based on estimated costs prior to purchase, and is developed to ensure that we plan for any potential cost variations dependent on when approval is secured and reservations made. That being said, please see responses to your questions/concerns addressed below:

>

>Hote rates included in the TAF are included at the allowed USG per diem rate (as this is an estimate and not to exceed amount). However, we anticipate hotel rates to be much less. Valia is currently working with the Marriott to secure block room rates below the USG rate, and ensure they can manage our group size during the event. If we can not secure rooms at the Marriott, we will contact the Sheraton and Intercontinental. We anticipate actual room rates to be around the 130/nt, as you mentioned below. We will provide you with an update once Valia has further details from the Marriott.

>

>As a company policy, we are required to book all of our flights through Uniglobe Travel. They are an approved USG contractor and have worked for many organizations securing USG funded flights. All flights purchased are at the lowest economy fare, according to FTR. The costs included for the flights were estimates based on 3 different flight options (using the higher priced routes) in case flight costs increased prior to purchase. However, through the agency we have identified flights around the $900 range for all locations, and will purchase the least expensive non-refundable, non-upgradable economy fare, ensuring best price to the USG, on US carriers (which often increases costs, but is in accordance with FTR.) However, it is not always possible to obtain the lowest possible fare available online via the travel agency. However, we will be sure to research all options prior to purchase, and will use the best routes/times available dependent on individual attendance on the networking day. For our team, those not attending the networking day will take the red-eye out on the 9th. For those attending, they will take the red-eye out on the 10th. We will secure hotel rooms accordingly, based on flight arrangements.

>

>Per diem is calculated at 75% on travel days, and 100% when meals are not provided. Per diem will be reduced according to the Meal Breakdown for all meals provided by CLS according to the agenda. As we have yet to finalize these requirements, we have estimated per diem at 75% on travel days and 100% on all other days, however, when billed it will again, be reduced according to meals provided and final itineraries for all travelers. (The formula in the spreadsheet calculates 75% on travel days, although it does not separate it out, so I apologize if this is confusing).
>
>The vehicle rental is an SUV seating a total of 8 passengers for Gryphon/Metabiota personnel. The vehicle will be rented according to the agenda, and used only for airport transfer and transport to/from the conference, as needed. This will be noted in the CLS logistics form, as well, so that we are not included in the cost for local transportation they will be providing. (b)(6) s still working with rental agencies to secure a vehicle and final quotation, we estimated the cost according to the smaller 4 door we rented on the last trip, and the number of days required. Again, as this is an estimate, we anticipate costs being lower, and should have the final quote shortly.
>
>Our total estimated travel costs for our team's attendance at the workshop is currently under the approved TD budget for travel. If you'd like an update on total expenses v budget, please let me know, as I'd be happy to send it along.
>
>I hope that this helps to answer your questions/cost concerns. I can jump on a call Friday, KZ time, if you'd like to discuss this further, or we can catch up when I see you in KZ. Please let me know what works best for you.
>
>I look forward to hearing from you soon.
>
>Kind regards, (b)(6)
>
>
>
(b)(6)
>Southeast Asia Program Manager – AEP
>Metabiota Inc.
(b)(6)
>
>CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.
>
>
>
>
>
>
>
>
>On y11/28/15, 3:00 AM, (b)(6) vrote:
>
(b)(6)
>>Since we have a little time on the Jordan CLS, Michael and I had a few questions/comments.
>>
>>Hotel cost- If we are going Marriott it is currently closer to $150 a night pp. They might want to contact the hotel to ensure they can handle the entire conference and see if we can get a group discount saving us even more. Current savings would be around $2700 Hotel Length-This will be dependent specifically on which flight they take but currently they would be leaving the 4th and not getting in until the 5th. There are red-eyes out the 9th or they would have to stay nearly an entire day to red eye out on the 10th (this applies to us as well)
>>Flights- A quick search is showing most flights from IAD are closer to $800, same with LAX. They identified RKV as they flight from Iceland but the international airport is KEF, flight cost should be closer to 600. Miami

should be closer to 1200. This would be a savings of nearly 2800. These flight prices could be due selection of refundable tickets or selection of a specific airline but I am not sure.
>>Per diem- we normally provide only 75% per diem on travel days, they have it at 100% Car rental- They do not identify the specific type of car they are renting. 4 doors are closer to 200-300 for the entire period, a van would be more comparable.
>>
>>Maybe we can talk early next week. I know these might seem minor but it all helps make sure we can come under budget. These also may be things that CLS just decides and we may not have as much control over.
>>
>>Have a nice weekend!
(b)(6)

From: (b)(6)
To:
Cc:

Subject: RE: [Non-DoD Source] Re: TD-013RevA
Date: Tuesday, December 08, 2015 12:07:10 PM
Attachments: CTR-CBEP_AEP_TD-013RevA_Uganda_One_Health_Epi_Training_8Dec2015v2_final.pdf

H(b)(6)

I missed block 10 in the version I sent you. Thanks. My counter-signed attached.....

Cheers,
(b)(6)
(b)(6)
Email:
Phone:
Mobile:

-----Original Message-----
From: (b)(6)
Sent: Tuesday, December 08, 2015 10:58 AM
To: (b)(6)
Cc:
A
(b)(6)
Subject: Re: [Non-DoD Source] Re: TD-013RevA

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Hi (b)(6)

In the version attached to your previous email, I noted that the budget still stated $381,705.27 in boxes 9b and 10, but was corrected to
$350,242.27 in boxes 5 and 11. If this was supposed to the be the case, please find a signed version attached.

Alternatively, I have updated the previous Word document (now v2, attached) to reflect the $350,242.27 budget in all boxes. I have also PDF'd and signed this version.

Hopefully, I am not confusing the matter.

Best,
(b)(6)

On 12/8/15, 10:38 AM (b)(6)

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-c-0104	METABIOTA	13	

4. TD TITLE	5. TOTAL TD ESTIMATE:
ONE HEALTH EPIDEMIOLOGY TRAINING IN UGANDA	HOURS. _ _____ DOLLARS: $ ____**$350,242.27**_____

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE (b)(6) EMAIL: (b)(6)	PHONE. EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

This revision shall serve as an official request to update proposed labor costs, as appropriate, using the Foreign Local National rates established with P00020.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

Technical Approach: Metabiota will use the following technical approach to manage all tasks required for successful implementation of the project components and to provide overall feedback and reporting on the proceecings outlining the accomplishment of objectives. The following components will be executed concurrently and are required for this project:

Phase 1: Program Management and Coordination
Phase 2: Training Administration
Phase 3: Training Implementation

Objective: Coordinate with key in-country stakeholders to ensure trainers are properly oriented with the OHE training materials and training plan, participants meet criteria and have committed to fulfilling all requirements, and ensure responsible parities for contingent steps (logistics planning, participant coordination, trainer coordination, etc.) are identified and able to fulfill responsibilities within time, budget, and scope.

Process: Metabiota, in coordination with DTRA CBEP and key in-country stakeholders, will establish a communication plan and responsibility matrix for the conduction of the four OHE trainings, covering Module 1 and 2 for Cohorts 9 and 10. The project team will coordinate to finalize the trainer and participant lists for each cohort and training (4 trainings total, 4 Uganda based independent consultant trainers per training, 3 Metabiota personnel working in a management and oversight capacity per training, 25-30 participants per cohort) and ensure all parties involved are able to participate in full and fulfill all training requirements.

Metabiota will coordinate with local partners to disseminate timely and accurate correspondences and Letters of Invitation (LOIs) to all participants and trainers. Metabiota will coordinate with CLS for all participant and event logistics, as well as for the procurement of any necessary materials and training supplies.

Deliverables (Program Management) – All deliverables associated with Component 1 are associated with overall program management to ensure effective implementation of the all project objectives:
- Deliverable #1: Effective communications between all stakeholcers to ensure all project activities are efficiently executed in accordance with Client and Host Country expectations and guidelines; including delivery of meeting minutes during stakeholder calls.
- Deliverable #2: Maintain project schedules to ensure implementation of high-quality trainings within proposed project budget and in accordance with the technical approach (above);
- Deliverable #3: Maintain client, stakeholder, and contractor relationships;

Training Administration (July 1, 2015 – February 29, 2016) Objective: Develop quantitative and qualitative evaluations of all training Module 1 and Module 2 events. Provide lessons learned and recommendations in After Action Reports (AARs).

Process: Metabiota, in coordination with in-country stakeholders and Ugandan OHE trainers, will conduct both daily evaluations and pre- and post-training testing in order to develop a comprehensive evaluation of the training implementation. After the completion of all four trainings and data analysis, Metabiota will develop a comprehensive qualitative and quantitative evaluation of the training implementation.

Deliverables:
- Deliverable #1: Develop all pre training related documentation and CDRLs - Responsibility Matrix, Training Event Plans (TEPs), CLS forms, and Finalized Trainer and Participant Lists;
- Deliverable #2 Development of After Action Report;

-After Action Reports will contain in-depth recommendations, detailed lessons –learned, and further insight for the DTRA COR.

Training Implementation (July 1, 2015 - February 29, 2016) Objective: Facilitate the conduction of Module 1 and 2 OHE trainings (5 days each) for Cohorts 9 and 10 in the Jinja and Hoima Districts, respectively, and provice technical and programmatic support for the trainers and participants to complete of interim training requirements between Modules 1 and 2. Additionally, Metabiota will support and encourage collaboration and communication establishment amongst participants, with a focus on neighboring Districts, throughout the training sessions and the interim activities.

Process: Metabiota, in coordination with DTRA CBEP and key in-country stakeholders, will facilitate the four OHE trainings. In order to provide the Ugandan stakeholders with both technical and programmatic support and ensure project goals and objectives are being met, Metabiota trainers and, potentially, a scientific mentor will travel to each of the four trainings. Metabiota will conduct pre- and post- training testing as well as hold daily feedback sessions with the Ugandan trainers to identify gaps, reorient (if necessary) training approaches, and discuss lessons learned.

Deliverables:

- Deliverable #1: Submission of daily training evaluations and participant feedback;
- Deliverable #2: Submission of four Training Trip Reports (TTR)

-providing high level overview of the trainings and highlighting next step recommendations and cohort and module-specific lessons learned.
-Contractually required through CDRL 15

The following table (Timeline) describes the anticipated timeline of each phase.

Training	May 2015	Jun 2015	Jul 2015	Aug 2015	Sep 2015	Oct 2015	Nov 2015	Dec 2015	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016
Mod 1						Cohort 9		Cohort 10					
Mod 2								Cohort 9		Cohort 10			

Risk Management:
In order to maintain our course of action and guarantee trainings that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation Plan	Residual Risk
		Cost				
Communication and cultural boundaries disrupting training preparation and execution	Participants, and presenters do not have a clear understanding of logistical support	4	5	(b)(4); (b)(6)	Before the training Metabiota will support CDC-Uganda and MoH to ensure communication is provided to participants and presenters clearly outlines support for the training	Med
		Schedule				
Submission of CCRs and TEPs	CCRs must be submitted at least 45 days prior to each event, and TEPs 65 days prior, and are dependent upon receipt of Letters of Technical Direction	5	5		Upon receipt of the Letter of Technical Direction, Metabiota shall immediately submit all DTRA required travel documents	Med-High
		Performance				(b)(4); (b)(6)
Ability to collaborate with MoH Uganda	Trainers from MoH Uganda are required for effective implementation	3	3	Med	Metabiota will directly engage MoH trainers to ensure buy-in and support	
Logistics coordination	Russian based logistics company that is locally staffed, which can lead to misinterpretation of vital information	3	3	Med	Metabiota will directly engage both Russian and local based offices of TTI/CLS	

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$279,635
1003	MATERIALS	$12,632
1004	ODCs	$12,147
1005	TRAVEL	$45,828
TOTAL		**$350,242.27**

9c. TO SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES.)

Period of Performance:
The Period of Performance for this effort is May 16, 2015 to February 29, 2015.
One Health Epidemiology Uganda is a legacy project that allows Metabiota to incur costs immediately as the proposed period of performance begins, and regardless of a DTRA CBEP decision to move forward. In kind, our team accrued a total of 215 hours during this period to design and develop the proposal. This effort involved a total of 93 program management hours, 84 research and data analyst hours, 16 SME III hours, 16 SME I hours, and 6 Trainer I hours.

The original period of performance was altered from May 16, 2015 through December 31, 2015 to May 15, 2015 through February 2016 to allow for the planned execution of both module 1 and module 2 of cohort 10. The postponement of Cohort 9 from its original schedule dictated a need to shift the trainings accordingly.

Labor:
Costs for direct labor to support this activity is required for the following personnel:

- Metabiota Program Manager, (b)(6) will oversee the execution of program objectives towards the completion of DTRA CBEP goals at the regional level, and will lead communication with DTRA CBEP for this activity. (b)(6) will do so by maintaining oversight of stakeholder

coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. (b)(6) will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables erstwhile ensuring the program remains within scope, budget, and timeline. Additionally, prior to (b)(6) arrival and as part of his onboarding process, program management responsibilities were shared by Metabiota Program Manage (b)(6) and (b)(6) As of July 7th 2015 and throughout the remaining period of performance (b)(6) will be the sole Program Manager for this effort. The previous period of performance was extended through February 29, 2016. To this end, additional LOE for (b)(6) required to ensure successful execution and closeout of this training program effectively enabling him to maintain management of communication between key stakeholders. This time will also be used to support in country activities directly related to the execution of training modules. The additional LOE was determined using project actuals to date.

- Metabiota Project Coordinator (Research and Data Analyst; RDA) (b)(6) will ensure the execution of project objectives towards the completion of DTRA CBEP goals at the project level. (b)(6) will do so by supporting stakeholder coordination and project execution, with a focus on project milestone achievement and stakeholder (b)(6) development and maintenance. Ms. Diggs will regularly communicate project status with (b)(6) will assis (b)(6) nticipating, managing, and communicating project risks and recommended mitigation strategies to the fund (b)(6) will also a n ensuring all project requirements and deliverables are fulfilled while concurrently ensuring the project remains within scope, budget, and timeline. With an extended period of performance, through February 29, 2016, an additional two months of LOE is required for (b)(6) o provide logistics and planning support. (b)(6) ll continue in her current capacity throughout this effort, and may be required to (b)(6) trainings. The additional LOE was determined using project actuals to date.
- Metabiota Technical Manager (Trainer III) (b)(6) will oversee all aspects of the execution of the training event (b)(6) (b)(6) ll submit and track all Training Event Plans (TEPs), Training Trip Reports (TTRs), and After Action Reports (AARs). (b)(6) l also direct and manage the local trainers, ensuring optimal execution of al training objectives. (b)(6) will manage in-country stakeholders and project execution, with a focus on buy-in maintenance. (b)(6) will direct feedback sessions with the local trainers daily, along with the Scientific Mentor, to discuss training material, lessons-learned, and review su ey results from the participants. In addition (b)(6) will suppor (b)(6) in ensuring the program remains within scope, budget and timeline. (b)(6) contribution to this effort will have discontinued from 08/01/2015.
- Metabiota Training Administrator (Trainer I)- (b)(6) MPH will play a vital role in implementation, coordination, and reporting. He will travel to the field for trainings and lead reporting efforts. He will additionally support (b)(6) attending meetings and communicating with relevant stakeholders. From a technical perspective he will use his expertise to support the administrative efforts (b)(6) during field trainings and in the development of After Action Reports (AARs) and Training Trip Reports (TTRs).
- Metabiota Subject Matter Expert (SME III) (b)(6) an internationally known expert in epidemiology, virus ecology, viral hemorrhagic fevers, fundamentals and domains of disease emergence. Since the 1970s, he has been leading international teams with partner institutions of developing countries (Dakar, Senegal, Bangui, Central African Republic). He largely contributed to developing tools and implementing strategies for the control and prevention of transmitted disease, and has been published in more than two hundred scientific papers in peer-reviewed journals. (b)(6) will support the OHE training programs by mentoring the local trainers and District participants in outbreak investigation and response best practices. In addition (b)(6) ill facilitate the scientific collaborations and support daily training implementation discussions.
- Metabiota Project Support Staff (SME (b)(6) as involved in supporting the development of the Technical proposal and budget for OHE Uganda. Her involvement in this project will have discontinued from 08/01/2015.
- Metabiota Regional Trainer and Mentor (Trainer I)- (b)(6) based in Sierra Leone, is a recognized epidemiologist focusing in VHF contact tracing and rapid response systems. (b)(6) has lead on-the-ground teams of health workers investigating VHF outbreaks and clusters. (b)(6) will serve as a regional scientific mentor to both the participants and the local trainers. In addition, (b)(6) ill facilitate and support scientific collaborations and provide lessons-learned from his field experience while operating in the recent/ongoing Ebola outbreak in West Africa.
- Metabiota Local Trainers (Research and Data Analyst Lead trainers (TBD) to support OHE Cohort 10 Module 2) will execute the pre- and post-tests, as well as the daily surveys from the participants. The Trainers will lead small group sessions in a 1:6 ratio, and support and guide the participants' working projects that occur between modules. Working closely wit (b)(6) the Trainers will implement all OHE training materials including lectures, computer enrichment sessions, and exercises.

(b)(6) an independent contractor currently working to support the Ugandan Ministry of Health as an infectious disease epidemiologist. He has been brought onto this training as part of the Metabiota team (b)(6) e was supported by research and data analyst (RDA) hours for Cohort 9 Module 1 training. However, upon the approval of the AFRICOM Foreign Local National (FLN) rates, he will henceforth be supported by this labor category.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials:

Minor materials and supplies are required to support project activities including stakeholder outreach and coordination, training material production, and host country approval facilitation. Materials will include:

International Communication-Semi-monthly stakeholder meetings will occur to coordinate all upcoming trainings in-county. Internet systems and international calls will be utilized for this effort. Routine updates will take p ace via e-mail

Printing Services- One set of OHE Modules 1 and 2 books, for 25 participants, and one set of Instructor Manuals, for 2 trainers, will be required. It is assumed that CLS will manage printing of all necessary materials. Metabiota will prepare the necessary documentation (e.g., CLS request forms) when seeking support for this activity.

Other Direct Costs:

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all project participants in accordance with DBA guidelines.

Subcontracts:

Local trainers may be utilized for execution of the training and will be subject to an Independent Consultant agreement.

Travel:

Funds are requested for three Metabiota personnel (two CONUS, one OCONUS) to travel to Uganda to facilitate each training event, four in total. Specifically, funding has been budgeted to support travel for two Metabiota personnel from CONUS for training implementation and oversight purposes. Additionally, in an effort to promote regional networking and capacity development, Metabiota has also budgeted travel funds for a Sierra Leonean field epidemiologist (e.g. (b)(6)) to air in training implementation. Metabiota staff will support project implementation, coordinate stakeholders, and provide technical support for Ugandan OHE trainers. Metabiota staff will hold daily feedback sessions with the trainers prior to beginning coursework for the day, and support computer enrichment activ ties that follow each evening. Prior to execution of travel, a cost estimate will

be provided to the AEP COR for review and approval. Metabiota will submit CLS forms requesting travel logistics support for participants (e.g., Trainees).

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	279,635.76	5/16/15	2/29/16
1003	MATERIALS	$	12,632.00	5/16/15	2/29/16
1004	ODCs	$	12,146.51	5/16/15	2/29/16
1005	TRAVEL	$	45,828.00	5/16/15	2/29/16
	TOTAL	**$**	**350,242.27**	5/16/15	2/29/16

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ _____**$350,242.27**_____

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ _____**$350,242.27**_____

12a. CURRENT PERIOD OF PERFORMANCE

_16 May 2015 – 29 Feb 2-16___

12b. TO REV PERIOD OF PERFORMANCE

___16 May 2015 – 29 Feb 2-16_____

13. CONTRACTOR SIGNATURE AND DATE

Signature (b)(6)

Date 8 December 2015

14. REGION

AFRICOM

15. TECHNICAL POINTS OF CONTACT

Uganda Country Manager (b)(6)

(b)(6)

AFRICOM Regional Science Manager, (b)(6)

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

Signature (b)(6)

Date:_____

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cumulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

(b)(6)

>Thank (b)(6) I realized that I needed to also update the Country
>Manager info from (b)(6) opefully, this should be the last go around.
>
>
>Cheers,
>(b)(6)
>
>Email:
>Phone:
>Mobile:
>
>
>-----Original Message-----
>From: (b)(6)
>Sent: Tuesday, December 08, 2015 10:03 AM
>To: (b)(6)
>Cc:
(b)(6)

>Subject: Re: [Non-DoD Source] Re: TD-013RevA
>
>All active links contained in this email were disabled. Please verify
>the identity of the sender, and confirm the authenticity of all links
>contained within the message prior to copying and pasting the address
>to a Web browser.
>
>
>
>
>----
>
>Thank you,(b)(6)
>
>I pulled the language from Block 8 (TD-013RevA; 11/19/2015) into our
>revised TD (attached). The Word version includes the updated/embedded
>budget. The PDF version has been signed.
>
>Please let me know if the attached revisions are appropriate. If not, I
>am happy to make any further revisions needed.
>
>Best,
(b)(6)
>
>
>
>On 12/8/15, 9:23 AM, (b)(6)
(b)(6)
>
>>H(b)(6)
>>
>>Sorry for the delay on this. The revised budget is approved: however,
>>I need you to put the revised budget in the RevA document that I sent
>>you

>>(re: no edits to block 8).
>>
>>Cheers,
(b)(6)
>>
>>Email: (b)(6)
>>Phone:
>>Mobile
>>
>>
>>-----Original Message-----
>>From: (b)(6)
>>Sent: Monday, November 23, 2015 6:07 PM
>>To: (b)(6)
>>Cc:
(b)(6)
>>Subject: [Non-DoD Source] Re: TD-013 RevA
>>
>>All active links contained in this email were disabled. Please verify
>>the identity of the sender, and confirm the authenticity of all links
>>contained within the message prior to copying and pasting the address
>>to a Web browser.
>>
>>
>>_____
>>
>>
>>
(b)(6)
>>Please find attached our revised proposal for TD-013 RevA, which now
>>captures the AFRICOM FLN-1 rate for in-country trainer (b)(6)
>>I have included two copies of the revised TD. The word d
>>includes the embedded and updated budget. The PDF has been signed.
>>
>>A couple of brief notes:
>>
>>* The ceiling has been reduced by ~$31,000;
>>* PM hours were increased from 305 to 414.5 to provide coverage over the
>>extended period of performance;
>>* RDA hours have been reduced from 1,264 to 714 hours;
>>* AFRICOM FLN-1 hours were included for our Trainer in Uganda;
>>* Changes to the narrative have been highlighted in yellow.
>>
>>I have also included our original T&M budget for this effort, which
>>may allow for easier side-by-side comparison of the changes mentioned above.
>>
>>Please let me know if you have any questions regarding the changes to
>>this TD.
>>
>>Best regards,
(b)(6)
>>
>>

>>On 11/19/15, 1:43 PM, (b)(6)
>>(b)(6)
>>
>>
>>
>>
>> Hi (b)(6)
>>
>> Please find attached RevA for TD-013. As discussed previously, the
>>Rev requests Metabiota to update the proposed labor costs, where
>>appropriate, with Foreign Local National labor rates established in
>>P(I)020. Please submit a revised budget proposal that reflects these
>>rate changes by Monday, 23 Nov 2015.
>>
>> Cheers,
>> (b)(6)
>>
>>
>> Deputy Chief Scientist
>> Cooperative Biological Engagement Program
>> Cooperative Threat Reduction
>> Defense Threat Reduction Agency
>> Email (b)(6)
>>Caution-C
>> Phone
>> Mobil
>>
>>
>>
>>
>

From: (b)(6)
To:
Cc:

Subject: Re: [Non-DoD Source] Re: TD-024: CENTCOM Film Narrative
Date: Thursday, April 28, 2016 7:44:43 PM
Attachments: Metabiota Contract HDTRA1 -14-C-0104_CTR-CBEP_AEP_TD-024_CENTCOM Film Narrative Response_Revised 28Apr2016.docx
Metabiota Contract HDTRA1 -14-C-0104_CTR-CBEP_AEP_TD-024_CENTCOM Film Narrative Response_Revised 28Apr2016.pdf

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Good evening (b)(6)

Attached please find both a word version and a signed PDF version of our updated TD response for TD-024.

We have made the requested deletions in the first ask.

We have left in the TD Response Development LOE as that activity is part of the TD and has never been part of the PMO. If this is a new direction I suggest we convene a leadership meeting to discuss.

For the 3rd ask we've reviewed all activities that would be at a significantly reduced risk done in person and have reduced the PM's trip to DC to 3 days, the minimal time we believe we could execute those activities.

Thank you for your consideration and we look forward to your reply.

V/R,

(b)(6)
Director, AEP Program
Metabiota, Inc.
Offic (b)(6)
E-ma

On 4/28/16, 12:20 PM (b)(6)
(b)(6)
>There are some comments/clarifications regarding labor and travel support:
>
>Block 9a, under Phase 2: Preparation (Task 1):
>(2) Please remove the formal communications plan, schedule and risk register. It is not clear on the need;

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	24	

4. TD TITLE	5. TOTAL TD ESTIMATE.
Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East and South Asia.	HOURS. **160** DOLLARS: $ **$60,000**

6. CONTRACTING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME. (b)(6)
PHON (b)(6) MA (b)(6)	PHONE EMAI (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE).

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to develop a Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East, South Asia and CBEP collaborations in the CENTOM Region in accordance with SOW section 4.3, Task 3.

Metabiota shall develop a 2-5-minute film narrative of the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, which was held at the Royal Scientific Society (RSS) on March 7-8, 2016 in Amman, Jordan. The visual narrative (2-5 minutes) objectives are to document the Jordan conference and describe other science initiatives and the outcomes of CBEP's engagements in the Middle East and South Asia. Metabiota shall develop the specific script in coordination with CBEP CENTCOM regional managers. The footage and interviews that Metabiota has from the conference can be utilized for the visual narrative. The visual narrative should be completed by June 30 2016. Total costs for the narrative shall not exceed $60,000.

Deliverables:

- A short film narrative of 2-5 minutes on 3 DVDs. Final film must go through Public Affairs Office (PAO) approval at DTRA.

The period of performance for this effort will be from May 1 to June 30 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $60,000.00 is requested by 19 April. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Phase 1: Proposal Development & Initiation (Task 1)

Metabiota developed a project plan and implementation strategy that aligns with the narrative from Box 8. It is anticipated that the plan for TD-24 is considered a living document, and it is expected that revisions to the plan may be necessary following stakeholder meetings. During proposal development, Metabiota will use Program Manager (PM) and Project Coordinator (PC, billed as a Subject Matter Expert 1) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Metabiota assumes the following:

1. The PoP assigned to this project will allow enough time for PAO approval of the final video. However, if PAO approval extends beyond the project timeframe, Metabiota will work with AEP regional leadership and the COR to adjust the PoP or allow for final approval of the video outside of the project timeframe, as appropriate and within contractual compliance;
2. Production services required for this project will be complete within 3 weeks allowing enough time for PAO approval of the final video. Should services required extend past this timeframe, Metabiota will work with the CBEP CENTCOM regional leads (and COR, if necessary) to adjust the schedule accordingly;
3. Box 8 of TD-24 states that this project will be completed in accordance with section 4.3, Task 3, which refers to Qualified Trainers (QTs). Based on the requirements, Metabiota has replaced Qualified Trainers with Task 4- Subject Matter Experts. Metabiota assumes this will be acceptable in the execution of the project and engagement of SMEs for this effort.

Project Coordination (Task 1)

The Project team will be led by an experienced Program Manager (PM (b)(6) and supported by a highly effective Project Coordinator (PC) (b)(6) MPA, to cover Task 1 – Project Coordination. The selected for this project, because they implemented TD-07 the Middle East South Asia Epigenetics and Genomics of Infectious Disease Conference and have the historical knowledge to effectively and efficiently manage the requirements identified for TD-24. In addition, Metabiota will engage (b)(6) om Gryphon Scientific LLC to assist in narrative development as a SME under Task 4 (b)(6) s the PI and senior technical implementer on TD-07, working closely with (b)(6) (b)(6)

Note: The Metabiota PM confirms subcontractor knowledge of the contractual requirements prior to TD approval.

Phase 2: Preparation (Task 1)

Upon TD approval, the PM will establish routine communications with project team members and CBEP to initiate project implementation. The PM will hold a kick-off meeting within 5 days of approval, with participation from the AEP PMO, project team members and key CBEP stakeholders to review project requirements and ensure a mutual understanding of project goals and objectives is realized. The PM, with assistance from the PC, will identify and engage the videography firm required to execute production of the video. The PM will lead coordination and integration of the project team with CBEP stakeholders to develop the narrative and complete the film.

The project team will ensure that all necessary documentation required prior to initiating tasks is completed correctly and submitted on time, including CTR CLS Form (CDRL A016) and the Monthly Reports (CDRL A001). The project team will work closely with CBEP regional leads, A&AS support staff, and CLS to ensure that all logistics requirements are coordinated and implemented according to the project schedule and contractual

requirements. The Metabiota Travel Coordinator will coordinate with the project team to assist in the request of travel requirements supporting this effort and will ensure that travel arrangements are secured, immediately following approval by the COR, and in line with the project schedule and execution requirements.

Sub-Phase 2.1: Film Narrative Development and Adaptation (Tasks 1,4)

Metabiota will select and engage a videography firm to produce the film, following sourcing of an appropriate vendor for this engagement. The project team will engage the CBEP regional leads to ensure the technical requirements are clearly determined and will select a service provider at best cost to the government, meeting the requirements identified. Upon engagement of the videography firm, Metabiota will transfer the existing, unedited video footage and interviews collected during the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, held at the Royal Scientific Society (RSS) from 7-8 March 2016 to the firm in order to produce the film. The unedited video footage, interviews, and photographs captured during this event will provide the raw material to effectively and relevantly document the Jordan conference and describe other science initiatives and the outcomes of CBEP's engagements in the Middle East and South Asia. The Metabiota team will work directly with CBEP regional leads and the videography firm to determine the narrative and produce the film

Sub-Phase 2.2: Coordination for Material Shipment (Task 1)

Shipment of materials and final edited film, if deemed necessary, will be handled via CLS. The project team will deliver the final edited and PAO approved film utilizing the appropriate CLS forms (CDRL A0016 and associated forms) to the CBEP team for appropriate routing, adhering to contract timelines and deliverable schedule. The Metabiota team will work closely with CBEP, A&AS, and CLS staff members to coordinate and execute any logistical requirements, as needed.

Phase 3: Implementation (Tasks 1,4)

The Metabiota Project Team will develop and create a 2-5 minute film narrative of the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, held at the Royal Scientific Society (RSS) on March 7-8, 2016 in Amman, Jordan. The film will be produced in the English language and may include visual frames of speakers on stage, panning of audience, and snapshots of the discussion panels, poster session, and participants asking questions and engaging with speakers. The film may also include short interviews with conference organizers, Scientific Advisory Board members, speakers, presenters, and attendees concerning the importance, relevancy, and benefits of the conference, among other topics. The film will be produced utilizing the technical expertise of the film editors, Metabiota team, and CBEP regional leads to showcase the conference and highlight the scientific initiatives and engagements stemming from this event and CBEP efforts in the region. Suitable background music will be included, as well as sub-titles, if deemed necessary. Metabiota will ensure that the film is adjusted/edited according to guidelines received from CBEP, and other key stakeholders. CLS will be engaged to provide logistical support (CDRL A0016), should it be required for this effort. In addition, Metabiota will ensure PAO approval of the film, and will coordinate with the technical team to address any necessary changes prior to completion and final delivery of the product.

To support implementation efforts, the Metabiota PM will travel to Washington DC for meetings with CBEP regional leads and the project team to develop the narrative and review the video footage. The PM will participate in working sessions, brainstorming, and technical development of the film narrative during scheduled in person meetings to ensure execution of the narrative and completion of the project. In addition, the PM will meet with the videography firm to review performance and completion of tasks associated with this project.

Phase 4: Project Closeout (Task 1)

The project team will close out all activities associated with this project, to include final reporting, invoicing, and submission of all relevant CDRLs according to the outlined schedule. In addition, the project team will contribute to lessons learned conversations with CBEP detailing enhancements that could be made should this type of project be repeated, as necessary and requested by CBEP regional leads. Finally, unedited and edited film, and other relevant materials will be provided to CBEP.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$36,810
1003	MATERIALS	$10,695
1004	ODCs	$0
1005	TRAVEL	$2,373
TOTAL		**$49,877.97**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES).

Labor

Costs for direct labor to support this activity is required for the following personnel:

Metabiota Program Manager (PM): The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of CBEP goals in direct support of this activity and the CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the SME 1 to ensure day-to-day activities for the project are completed on time, and to the quality required by CBEP. The PM will participate in routine conference calls and other forms of communication with CBEP regional leads and SMEs to ensure project execution. The PM will oversee the subcontractors on this effort, to include the services provided by the videography company in execution of the film. The PM will ensure all contract CDRLs are met and delivered according to the project timeline, and contract requirements.
LOE: 80 hours

Metabiota Project Coordinator: A SME 1 will act as a Project Coordinator (PC) throughout the planning, execution and close out of project objectives and activities. The PC will support the planning and execution of CBEP objectives towards the completion of project goals by participating in proposal development, stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will participate in routine project communications, to include leading regular coordination calls with the project team, CBEP, the videography company, and other key stakeholders.
LOE: 60 hours

SME 3: (b)(6) from Gryphon Scientific will be engaged to support technical development of the film narrative for this project. Having coordinated the MESA Epigenetics and Genomics of Infectious Diseases Conference with the Metabiota team, she is critical in ensuring the conference message is received and communicated through the fil (b)(6) will work directly with Metabiota and CBEP to develop the narrative, review the footage, and provide subject matter expertise to the team and the production services in development and execution of the film. Should edits or revisions be required following CBEP and PAO guideline (b)(6) ill participate in editing and refining the narrative to be delivered in the

final product. (b)(6) will be responsible for all monthly reporting and deliverables assigned to the Gryphon subcontract by Metabiota in execution of this project.
LOE: 80 hours

Reachback programmatic support to include finance, accounting, and contracts, will be provided as part of CLIN 1001 (FFP) and will not be separately invoiced.

Materials
Training Materials: Two (2) external hard drives will be procured to store the photos, raw video footage, and the final edited video.

Production Services: Metabiota will engage a videography firm to produce the short video for this effort. This will include identification of sound bites, completion of film transcripts, editing, and production of the video.

Metabiota will conduct market research and ensure the best price is secured, maintaining quality and technical requirements for all procurement of goods. Metabiota will coordinate directly with CLS for all shipping requirements, and will ensure cost management for all procured supplies, as necessary to complete the scope of this effort.

Subcontracts
The subcontract with Gryphon Scientific will be modified to include labor hours and materials required for implementation of this project. Costs are captured under the labor and materials budgets.

Travel
Travel costs will be cost reimbursable and provide best cost to the government following JTR regulations. Travel is requested for the PM to meet with the project team, Gryphon SME, CBEP, the videography company, and other key stakeholders to support the execution of Phase 3, and ensure development of the film narrative and completion of the project. The PM will travel to Washington DC to take part in in person meetings, brainstorming activities, narrative development and review of film footage and sound bites developed by the videography company supporting this project.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ $0

12a. CURRENT PERIOD OF PERFORMANCE
01-May-2016 – 15-May-2016

12b. TD REV PERIOD OF PERFORMANCE
01-May-2016 – 15-May-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:_____

Date:_____

14. REGION

CENTCOM/ Regional

15. TECHNICAL POINTS OF CONTACT

(b)(6) TCOM Science Lead,
(b)(6)
(b)(6) CENTCOM Regional Lead
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X
(b)(6)
COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	24	

4. TD TITLE	5. TOTAL TD ESTIMATE
Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East and South Asia.	HOURS: 160 DOLLARS: $ $60,000

6. CONTRACTING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME (b)(6)
PHONE (b)(6) MAIL (b)(6)	PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to develop a Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East, South Asia and CBEP collaborations in the CENTOM Region in accordance with SOW section 4.3, Task 3.

Metabiota shall develop a 2-5-minute film narrative of the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, which was held at the Royal Scientific Society (RSS) on March 7-8, 2016 in Amman, Jordan. The visual narrative (2-5 minutes) objectives are to document the Jordan conference and describe other science initiatives and the outcomes of CBEP's engagements in the Middle East and South Asia. Metabiota shall develop the specific script in coordination with CBEP CENTCOM regional managers. The footage and interviews that Metabiota has from the conference can be utilized for the visual narrative. The visual narrative should be completed by June 30 2016. Total costs for the narrative shall not exceed $60,000.

Deliverables:

- A short film narrative of 2-5 minutes on 3 DVDs. Final film must go through Public Affairs Office (PAO) approval at DTRA.

The period of performance for this effort will be from May 1 to June 30 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $60,000.00 is requested by 19 April. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Phase 1: Proposal Development & Initiation (Task 1)

Metabiota developed a project plan and implementation strategy that aligns with the narrative from Box 8. It is anticipated that the plan for TD-24 is considered a living document, and it is expected that revisions to the plan may be necessary following stakeholder meetings. During proposal development, Metabiota will use Program Manager (PM) and Project Coordinator (PC, billed as a Subject Matter Expert 1) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Metabiota assumes the following:

1. The PoP assigned to this project will allow enough time for PAO approval of the final video. However, if PAO approval extends beyond the project timeframe, Metabiota will work with AEP regional leadership and the COR to adjust the PoP or allow for final approval of the video outside of the project timeframe, as appropriate and within contractual compliance;
2. Production services required for this project will be complete within 3 weeks allowing enough time for PAO approval of the final video. Should services required extend past this timeframe, Metabiota will work with the CBEP CENTCOM regional leads (and COR, if necessary) to adjust the schedule accordingly;
3. Box 8 of TD-24 states that this project will be completed in accordance with section 4.3, Task 3, which refers to Qualified Trainers (QTs). Based on the requirements, Metabiota has replaced Qualified Trainers with Task 4- Subject Matter Experts. Metabiota assumes this will be acceptable in the execution of the project and engagement of SMEs for this effort.

Project Coordination (Task 1)

The Project team will be led by an experienced Program Manager (PM) (b)(6) and supported by a highly effective Project Coordinator (PC) (b)(6) to cover Task 1 – Project Coordination. The PM and PC were selected for this project, because they implemented TD-07 the Middle East South Asia Epigenetics and Genomics of Infectious Disease Conference and have the historical knowledge to effectively and efficiently manage the requirements identified for TD-24. In addition, Metabiota will engage (b)(6) Gryphon Scientific LLC to assist in narrative development as a SME under Task (b)(6) was the PI and senior technical implementer on TD-07, working closely with (b)(6) (b)(6)

Note: The Metabiota PM confirms subcontractor knowledge of the contractual requirements prior to TD approval.

Phase 2: Preparation (Task 1)

Upon TD approval, the PM will establish routine communications with project team members and CBEP to initiate project implementation. The PM will hold a kick-off meeting within 5 days of approval, with participation from the AEP PMO, project team members and key CBEP stakeholders to review project requirements and ensure a mutual understanding of project goals and objectives is realized. The PM, with assistance from the PC, will identify and engage the videography firm required to execute production of the video. The PM will lead coordination and integration of the project team with CBEP stakeholders to develop the narrative and complete the film.

The project team will ensure that all necessary documentation required prior to initiating tasks is completed correctly and submitted on time, including CTR CLS Form (CDRL A016) and the Monthly Reports (CDRL A001). The project team will work closely with CBEP regional leads, A&AS support staff, and CLS to ensure that all logistics requirements are coordinated and implemented according to the project schedule and contractual

requirements. The Metabiota Travel Coordinator will coordinate with the project team to assist in the request of travel requirements supporting this effort and will ensure that travel arrangements are secured, immediately following approval by the COR, and in line with the project schedule and execution requirements.

Sub-Phase 2.1: Film Narrative Development and Adaptation (Tasks 1,4)

Metabiota will select and engage a videography firm to produce the film, following sourcing of an appropriate vendor for this engagement. The project team will engage the CBEP regional leads to ensure the technical requirements are clearly determined and will select a service provider at best cost to the government, meeting the requirements identified. Upon engagement of the videography firm, Metabiota will transfer the existing, unedited video footage and interviews collected during the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, held at the Royal Scientific Society (RSS) from 7-8 March 2016 to the firm in order to produce the film. The unedited video footage, interviews, and photographs captured during this event will provide the raw material to effectively and relevantly document the Jordan conference and describe other science initiatives and the outcomes of CBEP's engagements in the Middle East and South Asia. The Metabiota team will work directly with CBEP regional leads and the videography firm to determine the narrative and produce the film.

Sub-Phase 2.2: Coordination for Material Shipment (Task 1)

Shipment of materials and final edited film, if deemed necessary, will be handled via CLS. The project team will deliver the final edited and PAO approved film utilizing the appropriate CLS forms (CDRL A0016 and associated forms) to the CBEP team for appropriate routing, adhering to contract timelines and deliverable schedule. The Metabiota team will work closely with CBEP, A&AS, and CLS staff members to coordinate and execute any logistical requirements, as needed.

Phase 3: Implementation (Tasks 1,4)

The Metabiota Project Team will develop and create a 2-5 minute film narrative of the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, held at the Royal Scientific Society (RSS) on March 7-8, 2016 in Amman, Jordan. The film will be produced in the English language and may include visual frames of speakers on stage, panning of audience, and snapshots of the discussion panels, poster session, and participants asking questions and engaging with speakers. The film may also include short interviews with conference organizers, Scientific Advisory Board members, speakers, presenters, and attendees concerning the importance, relevancy, and benefits of the conference, among other topics. The film will be produced utilizing the technical expertise of the film editors, Metabiota team, and CBEP regional leads to showcase the conference and highlight the scientific initiatives and engagements stemming from this event and CBEP efforts in the region. Suitable background music will be included, as well as sub-titles, if deemed necessary. Metabiota will ensure that the film is adjusted/edited according to guidelines received from CBEP, and other key stakeholders. CLS will be engaged to provide logistical support (CDRL A0016), should it be required for this effort. In addition, Metabiota will ensure PAO approval of the film, and will coordinate with the technical team to address any necessary changes prior to completion and final delivery of the product.

To support implementation efforts, the Metabiota PM will travel to Washington DC for meetings with CBEP regional leads and the project team to develop the narrative and review the video footage. The PM will participate in working sessions, brainstorming, and technical development of the film narrative during scheduled in person meetings to ensure execution of the narrative and completion of the project. In addition, the PM will meet with the videography firm to review performance and completion of tasks associated with this project.

Phase 4: Project Closeout (Task 1)

The project team will close out all activities associated with this project, to include final reporting, invoicing, and submission of all relevant CDRLs according to the outlined schedule. In addition, the project team will contribute to lessons learned conversations with CBEP detailing enhancements that could be made should this type of project be repeated, as necessary and requested by CBEP regional leads. Finally, unedited and edited film, and other relevant materials will be provided to CBEP.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$36,810
1003	MATERIALS	$10,695
1004	ODCs	$0
1005	TRAVEL	$2,373
TOTAL		**$49,877.97**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Labor

Costs for direct labor to support this activity is required for the following personnel:

Metabiota Program Manager (PM): The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of CBEP goals in direct support of this activity and the CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the SME 1 to ensure day-to-day activities for the project are completed on time, and to the quality required by CBEP. The PM will participate in routine conference calls and other forms of communication with CBEP regional leads and SMEs to ensure project execution. The PM will oversee the subcontractors on this effort, to include the services provided by the videography company in execution of the film. The PM will ensure all contract CDRLs are met and delivered according to the project timeline, and contract requirements.
LOE: 80 hours

Metabiota Project Coordinator: A SME 1 will act as a Project Coordinator (PC) throughout the planning, execution and close out of project objectives and activities. The PC will support the planning and execution of CBEP objectives towards the completion of project goals by participating in proposal development, stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will participate in routine project communications, to include leading regular coordination calls with the project team, CBEP, the videography company, and other key stakeholders.
LOE: 60 hours

SME 3 (b)(6) rom Gryphon Scientific will be engaged to support technical development of the film narrative for this project. Having coordinated the MESA Epigenetics and Genomics of Infectious Diseases Conference with the Metabiota team, she is critical in ensuring the conference message is received and communicated through the film (b)(6) ill work directly with Metabiota and CBEP to develop the narrative, review the footage, and provide subject matter expertise to the team and the production services in development and execution of the film. Should edits or revisions be required following CBEP and PAO guidelines (b)(6) will participate in editing and refining the narrative to be delivered in the

final product (b)(6) will be responsible for all monthly reporting and deliverables assigned to the Gryphon subcontract by Metabiota in execution of this proje
LOE: 80 hours

Reachback programmatic support to include finance, accounting, and contracts, will be provided as part of CLIN 1001 (FFP) and will not be separately invoiced.

Materials
Training Materials: Two (2) external hard drives will be procured to store the photos, raw video footage, and the final edited video.

Production Services: Metabiota will engage a videography firm to produce the short video for this effort. This will include identification of sound bites, completion of film transcripts, editing, and production of the video.

Metabiota will conduct market research and ensure the best price is secured, maintaining quality and technical requirements for all procurement of goods. Metabiota will coordinate directly with CLS for all shipping requirements, and will ensure cost management for all procured supplies, as necessary to complete the scope of this effort.

Subcontracts
The subcontract with Gryphon Scientific will be modified to include labor hours and materials required for implementation of this project. Costs are captured under the labor and materials budgets.

Travel
Travel costs will be cost reimbursable and provide best cost to the government following JTR regulations. Travel is requested for the PM to meet with the project team, Gryphon SME, CBEP, the videography company, and other key stakeholders to support the execution of Phase 3, and ensure development of the film narrative and completion of the project. The PM will travel to Washington DC to take part in in person meetings, brainstorming activities, narrative development and review of film footage and sound bites developed by the videography company supporting this project.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ $0

12a. CURRENT PERIOD OF PERFORMANCE
01-May-2016 – 15-May-2016

12b. TD REV PERIOD OF PERFORMANCE
01-May-2016 – 15-May-2016

13. CONTRACTOR SIGNATURE AND DATE
(b)(6)
Signature:
Date:

14. REGION
CENTCOM/ Regional

15. TECHNICAL POINTS OF CONTACT
(b)(6) CENTCOM Science Lead,
(b)(6)
(b)(6) CENTCOM Regional Lead,
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

therefore, please remove.
>
>Block 9b, under Labor Breakout tab embedded within the spread sheet :
>(1) Please remove TD proposal development costs under labor breakout. It includes 8.0 hours for PM and 8.0 hours for SME1. This should be removed as it is part of the FFP PMO.
>
>Blocks 9b & c, under Travel Budget embedded within the spread sheet and Travel section:
>(3) Please reduced PM travel time. The proposed PM (80 hrs) no longer supports a 7-day trip to DC. A 1-2 day trip plus phone/email coordination that includes 40 working hours plus 2 days travel should be sufficient to accomplish the objective (PM 56 hrs).
>
>Please advise if/how these impact Metabiota's proposed approach and costs.
>
>Thanks.
>
(b)(6)
>Program Manager, Academic Engagement Partnership (AEP) Program
>J3CTB/Cooperative Biological Engagement Program
>8725 John J. Kingman Rd
>Ft Belvoir, VA 22060
>W: (b)(6)
>Em
>
>
>
>
>-----Original Message-----
>From (b)(6)
>Sent:
>To: (b)(6)
>Cc:
(b)(6)
>Subject: [Non-DoD Source] Re: TD-024: CENTCOM Plan Narrative
>
>Dear (b)(6)
>
>Please find attached our technical and cost solution for TD-024. I have included both Word and signed PDF versions of our response.
>
>As always, please let us know if you have any questions that require further clarification.
>
>Best regards,
(b)(6)
>Deputy Program Director - AEP
>Metabiota, Inc
>email: (b)(6)
>Mobile
>Skype:
>
>CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email

transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

>
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>
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>
>
>
>
>On 4/15/16, 2:00 PM, (b)(6) (b)(6)

>>Please find attached, TD-024 for the creation of a film narrative on the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases. Response to the TD is requested by COB 19 April 2016, for a PoP start of 1 May 2016.

>>

>>Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also Cc'd), if you have any technical questions.

>>

>>Thanks,

>> (b)(6) Lt Col, USAF

>>Program Manager, Academic Engagement Partnership (AEP) Program

>>J3CTB/Cooperative Biological Engagement Program

>>8725 John J. Kingman Rd

>>Ft Belvoir, VA 22060

>>W: (b)(6)

>>Em

>>

>>

>>

>>

From: (b)(6)
To:
Cc:

Subject: Re: Cancellation of TD-008
Date: Tuesday, August 18, 2015 3:03:59 PM

Thanks (b)(6) since this was an activity written into the contract and continued from the base year extension there are going to be costs for labor up to receipt of this notification. We will have the data available during our meeting next week for discussion.

Best,

(b)(6)

> On Aug 18, 2015, at 1:58 PM (b)(6)
>
> Hi (b)(6)
>
> This emails serves to officially notify you that DTRA has decided to cancel the currently unapproved TD-008.
>
> Cheers,

(b)(6) h.D.
t
> Cooperative Biological Engagement Program
> Cooperative Threat Reduction
> Defense Threat Reduction Agency
> Email: (b)(6)
> Phone
> Mobil
>
>

From: (b)(6)
To:
Cc:

Subject: RE: Metabiota AEP TD 009 NHLS BS&S Training South Africa
Date: Thursday, September 03, 2015 8:37:59 AM

H(b)(6)

Metabiota's proposal submitted on 02 September 2015 in support of Technical Directive 009 is hereby approved for implementation with a ceiling price of $335,608.

The Contractor should use its best efforts to perform the work specified in the Technical Directive within the estimated ceiling price. The Contractor should notify the Contracting Officer in writing whenever it has reason to believe that that costs for this Technical Directive are expected to go over the established ceiling price.

Cheers
(b)(6)

Email(b)(6)
Phone
Mobil

-----Original Message-----
From:(b)(6)
Sent: Wednesday, September 02, 2015 12:47 PM
To(b)(6)
Cc
(U
Subject: Re: Metabiota AEP TD 009 NHLS BS&S Training South Africa

(b)(6) and all concerned,

Apologies on the delay on getting this in, and the fact that it is not in the new format - this was 99% done when we received the new format, and rather than delay again, we felt it best to submit this.

Please let us know if there are any additional questions regarding this proposal.

(b)(6)
Metabiota, Inc.
(b)(6) (b)(6) work)
(cell)

On 8/21/15, 10:59 AM,(b)(6) wrote:
(b)(6)
>H(b)(6)
>

>The South Africa team has reviewed the proposal, and additional
>clarification in the form of a revised proposal is required before any
>approval to proceed.
>
>1. Metabiota proposed a Period of Performance (PoP) from May 16, 2015
>- May 25, 2016; however the proposal was not submitted until July 1, 2015.
>Since this is a continuation of an ongoing activity initiated in the
>contract Base Year, please clarify the number of labor hours allocated
>to specific activities prior to July 1 and their associated costs.
>
>2. The original proposal dated September 9, 2014 proposed 855 total
>labor hours and included 5 individuals to support the effort. The new
>proposal submitted July 1, 2015, included a total number of labor hours
>of 1712, and included a total of 9 individuals to support the effort.
>Please explain the rationale behind the two-fold increase in the
>proposed number of hours and individuals required to support the same
>activity, given that the scope did not change. In addition, please
>clarify if the 855 hours originally planned were fully expended (and if
>so, on what
>activities) or if those hours are a part of the 1712 hours included in
>the latest proposal submission.
>
>3. Metabiota define the acronym "OHASIS" as the Overseas Humanitarian
>Assistance Shared Information System, however the definition should be
>Occupational Health and Safety Information System. Please correct.
>
>4. The 'Travel Cost' matrix breaks down costs into the categories of:
>airfare, lodging, and meals and incidentals. In many cases, ground
>transportation is a cost included in travel estimates; however, it does
>not appear to be specified in the proposal. Please clarify if there is
>a need for ground transportation.
>
>5. The 'Travel Cost' matrix defines the allotted funds for lodging,
>meals, and incidentals, but the proposed rates fall below the USG
>Foreign Per Diem Rates included in the proposal. Please confirm that
>the proposed costs are correct.
>
>6. Metabiota proposed the provision of 25 tablet Apple iPad Air.
>However, the technical proposal did not discuss the property transfer process.
>Please clarify the plan to accomplish this activity.
>
>7. The materials estimate section lists 25 Apple Lightening to USB
>Cables twice and with two different costs. Please clarify the disparate
>costs and explain why they are not duplicative.
>
>8. Under 'Phase 2: Deliverable 2' Metabiota proposed to develop and
>conduct online e-learning training and training manuals. Please clarify
>how many trainings are planned and confirm that adequate hours were
>included in the proposal to support the training.
>
>9. Under 'Phase 3, Process' Metabiota proposed conducting initial Fit
>Testing trainings for a select starting cohort of National Health
>Laboratory Services (NHLS) Staff. However, Metabiota did not specify
>the number of initial training sessions. Please clarify the level of
>effort required.
>
>10. Under 'Management Approach,' Metabiota included 'Initiation' as an

>activity. However, initiation was included as an activity to be
>performed under the original technical directive provided in the
>contract Base Year. All proposed "Phases" are a continuation of ongoing
>activities. If any hours are allocated towards this activity, CBEP
>recommends removing them from the current proposal.
>
>11. In May 2015, Metabiota provided a status update of NHLS BS&S
>on-going activities which estimates a four month completion timeline on
>proposed Phase 1 and Phase 2 activities. Under the current proposal,
>Metabiota provides a timeline of six months for Phase 1 and seven
>months for Phase 2. Since the scope did not change, please clarify the
>cause for the increase in the proposed schedule.
>
>Cheers
(b)(6)
>
>Email:
>Phone:
>Mobile:
>
>
>-----Original Message-----
>From:
>Sent:
>To:
>Cc:
(b)(6)
>DTRA J3-7 (US)
>Subject: Metabiota AEP TD 009 NHLS BS&S Training South Africa
>
>Good Evening
>
>Attached, please find Metabiota's Budget and Technical Proposal for the
>subject technical directive.
>Please feel free to contact me with questions or concerns.
>
>Thank you!
(b)(6)
>Program Operations Manager
>AEP Contracts Administrator
(b)(6)
>Skype:
>
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>
>
>CONFIDENTIALITY NOTICE: The information contained in this electronic

>mail
>(email) transmission (including attachments), is intended by Metabiota
>for the use of the named individual or entity to which it is addressed
>and may contain information that is privileged or otherwise confidential.
>It is not intended for transmission to, or receipt by, any individual
>or entity other than the named addressee except as otherwise expressly
>permitted in this email transmission. If you have received this email
>in error, please delete it without copying or forwarding it, and notify
>the sender of the error by email reply.
>
>

From: (b)(6)
To:
Cc:

Subject: RE: Metabiota AEP Budget and Technical Proposal for TD 014 Kenya Writing Workshop
Date: Friday, September 25, 2015 12:20:15 PM
Attachments: Approved_TD-14RevA_KE_Writing Workshop_16Sep2015.pdf

H(b)(6)

Please find attached, the approved TD-014RevA with ceiling price of $113,983 and a PoP of 9/25/2015-2/15/2016. Every effort should be made to perform the work specified in the Technical Directive within the estimated ceiling price. Metabiota should notify the Contracting Officer in writing whenever it has reason to believe the costs for this Technical Directive are expected to exceed the established ceiling price.

Cheers,
(b)(6)

Email: (b)(6)
Phone:
Mobile

-----Original Message-----
From: (b)(6)
Sent: Wednesday, September 23, 2015 5:30 PM
To: (b)(6)
Cc:
DT
Subject: Re: Metabiota AEP Budget and Technical Proposal for TD 014 Kenya Writing Workshop

(b)(6)

Please find our revised proposal for TD-014, which addresses the questions outlined below.

Please let me know if any additional information/clarification is required.

Best regards,
(b)(6)

From: (b)(6)
(b)(6)
Date: Tuesday, September 22, 2015 at 8:49 PM
To: (b)(6)
Cc:
(b)(6)

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-c-0104	METABIOTA	14	A

4. TD TITLE	5. TOTAL TD ESTIMATE:
Development of a writing workshop to mentor selected participants of the One Health Zoonotic Diseases Workshop held in Kenya on March 2015.	HOURS: 394 DOLLARS: $ **$100,000.00**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME (b)(6)	NAME (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHON EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

This revision to TD-14 provides additional guidance & clarification of the requirement to assist Metabiota in establishing a proposed implementation approach and budget for the period of performance. During the PoP, Metabiota is expected to:

a. Identify organizers of the Regional Conference on Zoonotic Diseases in Eastern Africa and collaborate with them to hold a 6-day writing workshop (not including venue, food, and travel logistics as this will be coordinated via CLS) for 20 participants. Metabiota should provide a PM and a SME1 for Project Coordination and Landscape Analysis. The hours required for this phase should not exceed 6 hours/week for two weeks each for the PM and SME1. Metabiota should reach out directly to (b)(6) the main POC of the One Health Workshop, to discuss [illegible] ed. Communication with Dr. Njenga should also include the discussion of the participants list, as the conference organizers have already identified them and will provide the names and draft manuscripts to Metabiota.

b. Coordinate with Kenyan collaborators to jointly identify no more than 2 Kenyan SMEs to participate in the writing workshop as well as pre- and post-workshop activities. For the first phase of Project Coordination and Landscape Analysis, the two Kenyan SMEs should also each not exceed 6 hours/week for two weeks. The writing coaches will provide mentorship to the participants and will help them convert their scientific data into a complete draft manuscript for a research paper to be submitted to a peer-review science journal. One manuscript will be developed per workshop participant. Metabiota will assist in the development of up to 20 papers/manuscripts. Additional communications regarding the SME assignments should occur during the activities described in a. and should be part of the not to exceed 6 hours/week.

c. Hypothesis Development and Article Framing- CBEP's expectation is that this workshop will provide the participants with the right skills and guidance to take their manuscripts to the next level, with the goal that that next level will be good enough for acceptance to a peer-reviewed journal. The SMEs will not need to contact the participants before the workshop due to the coordination through the Kenyan POCs and SMEs. Metabiota's SMEs (one from Metabiota and two Kenyans to be identified) will review the participants' manuscripts prior to the workshop. Each SME should not spend more than 20 hours total to complete the review and assessment of the manuscripts prior to the workshop as well as conduct any additional coordination among the SMEs. The SMEs will work together to determine if/how the manuscripts will be divided up as each SME may not need to conduct a detailed review of each manuscript. There may be additional SMEs identified for participation in all workshop activities (including pre- and post- workshop activities) by the Kenyan stakeholders but their time will not be funded by Metabiota. This should be discussed with the Kenyan POC noted above. PM oversight of the SME's review and coordination activities should not exceed 5 hours total.

d. Writing Workshop Implementation- The workshop outline should be as follows: 1) the main workshop will consist of 5 days (Monday-Friday) where the SME's will work together with the participants, 2) 1 day after the workshop for the SME's to finalize the review of the manuscripts, and 3) the travel days needed to travel between the U.S. and Kenya. PM participation during the workshop is acceptable. However, oversight should not necessitate as many hours as the SMEs efforts during the workshop, therefore Metabiota should propose PM hours planned to be spent only on this project, or provide sufficient clarification regarding PM tasks during the 6 working days to justify a full-time workload. The labor hours for each SME should not exceed 72 hours. PM hours are estimated at no more than 4 hours per day.

e. Paper Finalization and Publication Submission- CBEP and Metabiota will not be supporting or overseeing the submission of these manuscripts; for that reason, activities related to this should not be included in the proposed approach.

f. Post-workshop efforts- Post-workshop efforts will include the three SMEs (2 Kenyans and 1 Metabiota SME that participated in the workshop) spending no more than 20 hours each over 2-4 weeks to continue coordination with each other and potentially other SMEs (not funded via Metabiota) as well as finalize any needed review or revision of the manuscripts with the workshop participants. This may need to be divided between SMEs to stay within the 20 hour maximum. PM oversight of the SME's final review and coordination activities should not exceed 5 hours total.

g. For Materials and Supplies: CBEP expects participants to have relevant papers they have used in the past (to develop draft manuscripts papers and the presentations given at the One Health Conference). However, limited access to journals should be provided by Metabiota. The access per participant should be no more than 10 articles per person. This is an average and downloads should be managed by the PM and/or SMEs. A total number of 200 papers is authorized however this is the maximum which does not need to be met and should be used as needed per participant, not necessarily divided evenly if some participants do not require additional resources.

The period of performance for this effort will be from 18 September 2015 to 15 February 2016; however, CBEP anticipates the total time required to implement the requirement to be 20 weeks, including 2 weeks for Phase 1 (planning and SME identification), 3 weeks for Phase 2 (manuscript review and SME coordination), 1 week for Phase 3 (executing the workshop), and 4 weeks for Phase 4 (post-workshop coordination and manuscript review). Your technical approach, proposed budget, and basis of estimate for implementing this requirement is requested by 16 Sep 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Technical Approach
Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project phases and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. The following phases are required for this project:

Phase 1: Programmatic Coordination and Training Landscape Review
Phase 2: SME Review and Coordination
Phase 3: Writing Workshop Implementation
Phase 4: Post-workshop review and Summary Report Development

Phase 1 – Programmatic Coordination and Landscape Analysis (16 Sep - 24-Sep. 30, 2015)

Objective: Establish a communication and coordination plan with the Kenyan Zoonotic Disease Unit (ZDU), Global Implementation Solutions (GIS), and Conference to initiate collaboration and conduct a landscape review of technical writing capacities and needs in the One Health sector in Kenya.

Process: Metabiota, with direction from DTRA CBEP, will engage (b)(6) the main POC from the Regional Conference on Zoonotic Diseases in Eastern Africa, an event that took place in Naivasha, Kenya, March 2015. Through this collaboration, Metabiota will develop an understanding of Kenya's technical writing capacities and needs in the One Health sector. Metabiota will receive the list of selected writing workshop participants from (b)(6) Metabiota will also receive recommendation from (b)(6) for two mutually agreed upon Kenya based SME 3 technical writing experts to be brought on as independent contractors for this effort.

Deliverables:

- Deliverable 1: Submission of contacts list to include Writing Workshop participants and Kenyan SME III technical writing experts

Phase 2 – Pre-Workshop Participant Manuscript Review (Nov. 2, 2015-Jan. 29, 2016)

Objective: Selected participants set to attend the Writing Workshop will provide draft manuscripts for review by subject matter experts prior to their attendance. Technical writing SMEs will be able to gain a specific and in-depth understanding of the content they can expect during the writing workshop before attending.

Process: Metabiota, in coordination with DTRA-CBEP and (b)(6) will request that the selected participants produce draft manuscripts for review by the identified technical writing SMEs. Each SME will spend a defined number of hours reviewing the materials, and gaining a more defined understanding of the participants' approach. The SMEs will not be in contact with the participants during this phase, but will communicate among themselves with the assistance of the program manager to ensure that manuscripts to be reviewed are divided up appropriately among the team.

Deliverables:

- Deliverable 1: Submission of participants' draft manuscripts to include hypotheses, writing concepts and an approach plan, along with statements of accessible, supporting data.

Phase 3– Writing Workshop Implementation (Feb. 8-13, 2016)

Objective: Conduct a six-day workshop on various aspects of technical writing in order to train and mentor twenty participants representing the Kenyan One Health research sector.

Process: Metabiota will coordinate with the SME mentors and participants to conduct the six-day training in Kenya. This training will include a five days of lecture and working group sessions to cover topics including but not limited to scientific paper formatting, styling, and general requirements; the ethics of journal publication and authorship; the inclusion of background research and citing references, and understanding the impact factor and journal submission organizational techniques. Each participant will have access to the coaches, and be able to work directly with the SMEs on their material. The sixth and final day will allow for collaboration between the SMEs to finalize the review of manuscripts before departing.

Deliverables:

- Deliverable 1: Submission of the Training Trip Report and After-Action Report detailing the overall training processes and lessons learned and the results of knowledge gained assessments.

Phase 4 – Post-Workshop Review and Summary Report Development (Feb. 14-29, 2016)

Objective: Develop final report and provide final manuscript review and post-workshop support to participants as needed.

Process: Metabiota will work jointly with the SME mentors and participants to provide technical and programmatic support during the post-workshop phase. SMEs will coordinate with each other to ensure that no effort goes wasted and that manuscript reviews are comprehensive and supportive of the intended skill enhancement of the writers. SMEs will be able to communicate with participants during this period. Once complete, Metabiota will develop a final report detailing the overall processes and lessons learned.

Deliverables:

- Deliverable 1: Final report detailing overall processes and lessons learned

Risk Management:

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Cost						

Subject Matter Expert Subcontracting	Due to limited insight into participant profiles and research activities, additional costs and time-delays may occur to identify and coordinate the most appropriate SME coordination, which may impact the ability to conduct this activity in full.	3	3	Medium	As soon as Metabiota has a basic understanding of the participants' work, Metabiota will begin contacting necessary SMEs, refining the list as better understanding develops. Metabiota will attempt to reach basic agreement with SMEs as soon as possible and issue authorization to proceed while subcontracts are being put into place.
Programmatic labor hours	Following guidance from CBEP POC's, the current budget for Metabiota Program Management and Project Coordination hours are extremely low. As a result, and based on previous experience implementing overseas activities, there is significant risk for budget overrun.	5	5	(b)(4); (b)(6)	Maximize efficiency regarding approved labor hours through best practice, and notification to DTRA CBEP contracting officer of expectations to run over budget.
				Schedule	
Project Coordination	Kenya One Health Technical Writing Workshop involves a significant number of stakeholders and participants representing various organizations, putting implementation activities at risk of delay or cancellation.	5	2	Medium	Establish and hold regular calls with all stakeholders and identify multiple possible implementation dates. Identify critical components as early as possible and redirect efforts when it becomes clear that targeted implementation dates will not be achievable.
				Performance	
Political Instability	Sporadic violence in northeastern Kenya may lead to risks of being unable to safely complete in-country work	2	5	Medium	Coordinate closely with DTRA and AFRICOM to be aware of any potential risks to performers, and target a location for the workshop well away from risky areas.

(b)(4); (b)(6)

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$85,141
1003	MATERIALS	$7,880
1004	ODCs	$3,542
1005	TRAVEL	$17,420
TOTAL		**$113,983**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Period of Performance

The Period of Performance for this effort is July 21, 2015 to February 29, 2016.

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As some of our Subject Matter Experts will be independent consultants the Metabiota PM will additionally oversee and ensure that all project personnel adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PM will provide management oversight of the project team, including independent consultants throughout the span of the project.

The Metabiota PM will oversee the coordination between the Kenyan stakeholders and the workshop planning team, and will ensure the project team captures and keeps in account stakeholder input regarding key information relevant to the planning of the workshop. The PM will travel to Kenya to

ensure the execution of the workshop proceeds smoothly and will provide oversight over all independent consultants. Lastly, the PM will provide oversight to ensure all required project closeout activities occur in a timely fashion.

Proposal Development - Phase 1:

Metabiota Subject Matter Expert I: The Metabiota SME I will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipat ng, managing, and communicating projects risks and recommended mitigation strategies to the funder.

Phase 2-4:

Subject Matter Expert III (2 total): We expect to identify two Kenya based SME III personnel with the support in large part from (b)(6) These SMEs will be fully qualified scientific experts with experience publishing in peer-reviewed journals. These SMEs will not require international travel, but will be compensated for domestic travel, and will be brought on as independent contractors to Metabiota.

The SMEs IIIs will each be assigned to work on reviewing manuscripts of the Writing workshop participants during phase 2. They will be tasked with workshop participation during phase 3, and final review during phase 4. These SMEs will be required to review relevant participant manuscripts closely during phase 2. This will require fully understanding the research that has been done, including a significant dive into the data collection and analysis that may have already been done to ensure that they utilize their time effectively during phase 3. During the workshop, SMEs will provide a mix of lectures discussing topics relevant to the authoring, editing, and publishing of scientific research, small group work reflecting those lectures, and one-on-one time with each of their assigned participants. Following the workshop, SMEs will provide follow-on mentoring to participants as they incorporate the lessons learned into the final drafts of their manuscript reviews and relevant reports during phase 4

Subject Matter Expert I (1 total): We expect to identify one US based Metabiota representative to serve as an SME I technical writer. This SME will be a fully qualified scientific expert with experience publishing in peer-reviewed journals.

The SME I will each be assigned to work on reviewing manuscripts of the Writing Workshop participants during phase 2 in concert with the SME 3s to avoid duplication of efforts. They will be tasked with workshop participation during phase 3, and final review during phase 4. This SME will be required to review relevant participant manuscripts closely during phase 2. This will require fully understanding the research that has been done, including a significant dive into the data collection and analysis that may have already been done to ensure that they utilize their time effectively during phase 3. During the workshop, SMEs will provide a mix of lectures discussing topics relevant to the authoring, editing, and publishing of scientific research, small group work reflecting those lectures, and one-on-one time with each of their assigned participants. Following the workshop, This SME will provide follow-on mentoring to participants as they incorporate the lessons learned into the final drafts of their manuscript reviews and relevant reports during phase 4.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials
We have budgeted for the possibility that we may need to provide access to scientific journal articles to the workshop participants while they are working on their manuscripts. Our estimate provides an average of 10 articles per participant at an estimated access price of $35 per article. It may well be the case that some of the Writing Workshop participants do not require the use of this many articles on average; in which case costs will not be incurred. Participants must have expressed support from an involved SME to facilitate the purchase of any scientific article. The budget for journal access may only be partially utilized.

We have also budgeted for a small quantity of office supplies to accommodate the printing of agendas, training materials, or workshop materials needed to successfully execute and support in-country project activities.

Lastly, we have budgeted for international communications ability for our project team while they are in country implementing the workshop. The costs budgeted here reflect activating a moderate calling plan for each traveler's cell phones. These charges also reflect the provision of USB modems and associated moderate data plans to both the travelers and in country SME IIIs. These items will only be purchased if the situation dictates the need (i.e. inability to access online communications outright), otherwise, these modems will not be procured.

Other Direct Costs
Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts
Subcontracts will be issued to SMEs, RDAs, and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support the program manager 1 subject matter expert to Nairobi, Kenya to implement the writing workshop. The travel budget represents the estimated amount required; travel on the AEP contract is cost reimbursable.

Our travel budget assumes the workshop will be held on 6 consecutive days, with an additional day budgeted for set-up and coordination activities. If, through discussion with the Kenyan stakeholders, an alternative schedule is created or an alterative location is desired, travel costs may be impacted accordingly.

Kenyan SME III contractors will be provided with hotel, and per diem respective of their length of participation on this effort. Their cost for arriving to the venue will be covered independently; however, daily transport costs will be shared among the workshop team as a whole.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	85,141	9/25/2015	2/15/2016
1003	MATERIALS	$	7,880	9/25/2015	2/15/2016
1004	ODCs	$	3,542	9/25/2015	2/15/2016
1005	TRAVEL	$	17,420	9/25/2015	2/15/2016
	TOTAL	**$**	**113,983**	9/25/2015	2/15/2016

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $113,983

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $113,983

12a. CURRENT PERIOD OF PERFORMANCE

25 September 2015 – 15 February 2016

12b. TD REV PERIOD OF PERFORMANCE

25 September 2015 – 15 February 2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:_____

Date:

14. REGION

AFRICOM

15. TECHNICAL POINTS OF CONTACT

(b)(6)
Kenya Country Manage
(b)(6)
(b)(6)
AFRICOM Science Manager
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

(b)(6)
(b)(6)
COR / J3CTB Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Subject: Re: Metabiota AEP Budget and Technical Proposal for TD 014 Kenya Writing Workshop

H(b)(6)

Two minor clarifications requested, based on CBEP review:

1. Please clarify the accuracy & rationale for 20 scratch cards for cell phone minutes for travelers while in Kenya. If this number is correct, then why 20, and whom are the cards for?

2. Please confirm that final manuscripts (in addition to the pre-workshop manuscripts), following the writing workshop and post-workshop follow-up & mentorship will be provided to CBEP as a means to evaluate the effectiveness of the workshop.

Cheers.

(b)(6)

Email (b)(6)

Mobile

Sent from my iPhone

On Sep 16, 2015, at 7:34 PM (b)(6) wrote:

(b)(6)

Please find attached our revised proposal for TD-014, which incorporates the changes outlined below.

I have included a signed PDF version, as well as a Word version, which has the embedded budget file. Also, please find two supplemental files
attached:

1. Comments Tracker, which captures our responses to the questions below; 2. Procurement Document, which provides supporting documentation for our materials costs.

Please let me know if you have any additional questions.

Best regards,

(b)(6)

On 9/14/15, 11:21 AM, (b)(6)

(b)(6)

H(b)(6)

Please find attached, revised technical direction for TD 14 (Kenya Writing Workshop). Additionally, below is feedback from the CBEP team on the proposal submitted in response to the original TD-14. Hopefully, the attached and below will provide additional necessary clarity on the expectations for implementing this requirement.

Comments:
1. For Phase 1-Project Coordination and Landscape Analysis: Metabiota proposed a PM (47 hours or approx. 16 hours/week) and a SME1 (42 hours or approx. 14 hours/week) for the coordination with relevant Kenyan stakeholders and the development and submission of a training landscape review. The PM will oversee the coordination whereas the SME1 will lead the coordination with relevant stakeholders and the development and submission of the training landscape review. The hours are proposed to be spread out among 3 weeks. The overall amount of maximum hours dedicated to this activity is excessive for the activities proposed, as this phase will comprise mostly phone calls and email coordination with Kenyan stakeholders to discuss the workshop and plans for preparation. Metabiota should adjust the hours required for this phase to not exceed 6 hours/week for two weeks

each for the PM and the SME1, and adjust the timeline proposed to complete these activities. Metabiota should reach out directly t(b)(6)
<mailto(b)(6) the main POC of the One Health Workshop, to discuss what the vision for the implementation of the workshop is and to identify 2 Kenyan SME3s and 1 SME1 from Metabiota to participate in the writing workshop. Communication with (b)(6) should also include the discussion of the participants list, as the conference organizers have already identified them and will provide the names and draft manuscripts to Metabiota.

2. For Phase 2 -Participant Identification and SME Matching: Metabiota proposed a PM (94 hours or approximately 13.4 hours/week for 7 weeks), a
SME1 (105 hours or 15 hours/week for 7 weeks) and a SME3 (101 hours or approximately 14.4 hours/week for 7 weeks). The conference organizers have already selected the 20 participants; therefore Metabiota should remove this phase from the proposal. Additional communications regarding the SME assignments should occur during Phase 1 and should be part of the not to exceed 6 hours/week. The hours allocated to this phase should be removed from the proposal. Total hours to be removed: 300 hours.

3. For Phase 3 -Hypothesis Development and Article Framing: Metabiota proposes a PM (109 hours or 8.4 hours/week for 13 weeks; 1 SME1 (218 hours or approx. 17 hours/week for 13 weeks), 2 SME2s (103 hours each or approx. 8 hours/week), 3 SME3s (103 hours each or approx. 8 hours/week for 13 weeks), and 5 RDAs (140 hours each or approx. 11 hours/week for 13 weeks). CBEP expectation is to provide the participants with the right skills to take their manuscripts to the next level, with the goal that that next level will be good enough for acceptance to a peer-reviewed journal. It is for that reason that these efforts were not requested in the letter of technical direction. The SMEs will not need to contact the participants before the workshop due to the coordination through the Kenyan POCs and SMEs. Metabiota's SMEs (one from Metabiota and two Kenyans to be identified) will review the participants' manuscripts prior to the workshop. Each SME should not spend more than 20 hours total to complete the review and assessment of the manuscripts prior to the workshop as well as conduct any additional coordination among the SMEs.
The SMEs will work together to determine if/how the manuscripts will be divided up as each SME may not need to conduct a detailed review of each manuscript. There may be additional SMEs identified for participation in all workshop activities (including pre- and post- workshop activities) by the Kenyan stakeholders but their time will not be funded by Metabiota.
PM oversight of the SME's review and coordination activities should not exceed 5 hours total.

4. For Phase 4-Writing Workshop Implementation: Metabiota proposed a PM
(72 hours), 1 SME1 (72 hours), 2 SME2s (72 hours each), and 3 SME3's (72 hours each). The TD specified Metabiota to develop a six day workshop but the dates proposed go beyond six days (Feb 1-14, 2016). The dates should be revised to reflect the following workshop outline: 1) the main workshop will consist of 5 days (Monday-Friday) where the SME's will work together with the participants, 2) 1 day after the workshop for the SME's to finalize the review of the manuscripts, and 3) the travel days needed to travel between the U.S. in Kenya. PM participation during the workshop is acceptable; however it is not clear what the PM will do full time during the workshop. Oversight should not necessitate as many hours as the SMEs efforts during the workshop, therefore Metabiota should reduce the number of PM hours to reflect those hours spend only on this project, or provide additional clarification regarding PM tasks during the 6 working days to justify a full-time workload. The labor hours for each SME should not exceed 72 hours.

5. For Phase 5- Paper Finalization and Publication Submission: Metabiota proposed a PM (49 hours or 5.4 hours/week for 9 weeks), 1 SME1 (97 hours or 11 hours/week for 9 weeks), 2 SME2's (72 hours each or 8 hours/week for 9 weeks), 3 SME3's (72 hours each or 8 hours/week for 9 weeks) and 5 RDA's (136 hours each). As stated in the TD, CBEP will not be supporting or overseeing the submission of these manuscripts; for that reason, this phase should be removed from the proposal. Post-workshop activities will be captured below in proposed Phase 6.

6. For Phase 6 -Post-submission Assistance and Summary Report
Development: Metabiota proposed a PM (10 hours), a SME1/Project Coordinator (10 hours), 2 SME2's (20 hours

each), and 3 SME3's (20 hours each). As stated in the TD, CBEP will not be overseeing the submission or the post-submission process for the participants thus this phase is not necessary and should be removed from the proposal. Post-workshop efforts will include the three SMEs spending no more than 20 hours each over 2-4 weeks to continue coordination with each other and potentially other SMEs (not funded via Metabiota) as well finalize any needed review or revision of the manuscripts with the workshop participants. Again, this may need to be divided between SMEs to stay within the 20 hour maximum. PM oversight of the SME's final review and coordination activities should not exceed 5 hours total.

7. For Materials and Supplies: Metabiota proposed the access of scientific articles from online journals. Metabiota proposed that each of the 20 participants will need access to 20 articles at a cost of $35 per article for a total cost of $14,000. CBEP agrees that the access to journals will be necessary but the maximum number of articles per participant proposed is excessive. CBEP expects participants to have relevant papers they have used in the past (to develop draft manuscripts papers and the presentations given at the One Health Conference).
Therefore, it seems more appropriate to lower the access per participant to no more than 10 articles per person. This is an average and downloads should be managed by the SMEs. A total number of 200 papers is authorized however this is the maximum, which does not need to be met, and should be used as needed per participant, not necessarily divided evenly if some participants do not require additional resources. This section should be revised to reflect this vision.

8. For Travel: Metabiota proposes a $43 service fee per traveler; it is unclear what this expense covers, and CBEP generally does not consider "service fee" an allowable expense. More information is needed to justify this fee.

9. For Communication: Metabiota proposes costs for international calling and data plans for each traveler at a cost of $300/person for a total cost of $2,100. More information is needed regarding the type of data plan to be purchased and the options that are available (e.g. quotes) for different plans available for a single 1-week trip to determine if these expenses are reasonable and appropriate. More justification is needed regarding the need for every single person to have a full plan (calling and data plan) including the proposed use (CBEP will only support the use of the mobile phones for activities directly related to the workshop, not other business).

Cheers,

(b)(6)

Email: (b)(6)
Phone:
Mobile:

-----Original Message-----
From: (b)(6)
Sent: Wednesday, August 05, 2015 7:15 AM
To: (b)(6)
Cc:
DT
Subject: Metabiota AEP Budget and Technical Proposal for TD 014 Kenya Writing Workshop

Good Evening (b)(6)

Attached, please find Metabiota's budget and technical proposal in response to technical direction 014 submitted by DTRA on July 21, 2015.

Please feel free to contact me with questions or concerns.

Thank you!

(b)(6)
Program Operations Manager
AEP Contracts Administrator
(b)(6)
Skype (b)(6)

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<CTR-CBEP_AEP_TD-14RevA_KE_Writing Workshop_16Sep2015.docx> <CTR-CBEP_AEP_TD-14RevA_KE_Writing Workshop_16Sep2015.pdf> <Procurement Document TD 14.pdf> <TD-014 Kenya Writing Workshop - Comment Tracker.xlsx>

From: (b)(6) [redacted]
To:
Cc:

Subject: RE: Metabiota AEP TD-004 MESA
Date: Monday, August 24, 2015 11:13:20 AM
Attachments: CTR-CBEP_Metabiota AEP TD-004rev1_MESA_24Aug2015.pdf

Thank (b)(6) [redacted] Attached is a revised TD memo that reflects the change in requirement to hold the workshop in the Spring of 2016, and the NTE value of $488,040. No need to re-submit the revised proposal from 7 Aug 2015, which is now approved.

Cheers,
(b)(6) [redacted]

Email: (b)(6) [redacted]
Phone: [redacted]
Mobile: [redacted]

-----Original Message-----
From: (b)(6) [redacted]
Sent: Wednesday, August 19, 2015 7:19 PM
To: (b)(6) [redacted]
Cc: [redacted]
Subject: Re: Metabiota AEP TD-004 MESA

Dear (b)(6) [redacted]

I wanted to follow up on the below email submission for TD-0004, extending the PoP and revising the budget. Would you please let me know if this is approved, or if there is any further information I can provide regarding this request?

Thank you very much. I look forward to hearing from you soon.

Kind regards (b)(6) [redacted]

(b)(6) [redacted]
Southeast Asia Program Manager – AEP
Metabiota Inc.
(b)(6) [redacted]

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Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

August 24, 2015

Metabiota
(b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for the Implementation of an Epigenetics and Genomics of Infectious Diseases Workshop in the Middle East South Asia Region.

Dear (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to administer a two-day workshop in the Spring of 2016 on Epigenetics and Genomics of Infectious Diseases in the Middle East South Asia Region in accordance with SOW Section 4.3, Task 5. The workshop will include plenary talks, topic-focused sessions, poster sessions, and training sessions. The plenary talks will highlight recent advances in epigenetics, genetics, and the technologies and skills needed to study epigenetics. The topic-focused sessions will provide opportunities for participants to learn about specific areas of research, such as epigenetic regulation of host immune system genes by bacterial toxins. The poster sessions will allow scientists to identify prospective partners for research cooperation. Finally, the training sessions will describe processes of initiating and maintaining international scientific collaboration, grant writing, and risk analysis. A proposal and estimated budget not to exceed $488,040 for implementing this requirement is requested by 07 August 15.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with DTRA CBEP Points of Contacts listed below.

CBEP POCs: CENTCOM Regional Lead, (b)(6)
(b)(6) CENTCOM Regional Science Manager (b)(6)

Attachment List: None

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

Sincerely,

(b)(6)

X

(b)(6)

CDR/J3CTB Deputy Chief Scientist

Co (b)(6)

On 8/7/15, 8:14 AM, "(b)(6) wrote:

>Dear (b)(6)
>
>I hope this email finds you both well. Following conversations with (b)(6) and collaborators on TD-0004 Jordan Epigenomics Workshop, please find attached our revised budget, budget narrative, and project schedule to extend the PoP through 15 May 2016 to allow us to hold the workshop from 7-8 March 2016. The change in schedule will ensure we have enough time for CBEP review and approval of all workshop materials, and allow us to secure participant attendance following a thorough submission and review process by the scientific advisory board.
>
>If you have any questions or require further information, please let me know.
>
>V/r (b)(6)
>
>
>
(b)(6)
>Southeast Asia Program Manager – AEP
>Metabiota Inc.
(b)(6)
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>
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>
>
>
>On 7/20/15, 2:15 PM, "(b)(6) wrote:
>
>>De (b)(6)
>>
>>I hope this email finds you well. Per further conversations with Dr.
>>(b)(6) egarding clarification on TD-0004 Jordan Epigenomics
>>Workshop, please find attached our revised budget and supporting
>>budget narrative for review and approval. As requested, updates were
>>made to the budget and budget narrative, only, and not the technical
>>proposal submitted on 26 May. The changes made reflect a reduction in
>>total labor costs, by removing labor requirements for the Grants
>>Manager and Research Collaborators. The Grants Manager will not be
>>required, and responsibilities for this role have shifted to Gryphon
>>SMEs. In addition, costs for Research Collaborators have been removed
>>following confirmation that labor support is not required for their
>>role on the scientific advisory committee, and only their travel costs
>>(provided by CLS) will be necessary to facilitate their engagement on

>>the workshop. In addition, information has been provided for all labor
>>on the project to include the names, role&responsibility, and hours for each team member.
>>
>>If you have any questions, or require further clarification, please
>>let me know.
>>
>>Thank you very much and I look forward to hearing from you soon.
>>
>>Kind regards,(b)(6)
>>
>>(b)(6)
>>Program Manager
>>Metabiota Inc.
>>(b)(6)
>>
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>>
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>>
>>On 6/30/15, 9:22 AM,(b)(6) wrote:
>>
>>>>Dea(b)(6)
>>>
>>>Per your below email, please find attached the revised budget for
>>>TD-004 MESA.
>>>
>>>1. The budget has been updated to remove the costs for printing and
>>>shipping of materials to the workshop. A total of $2,021 remains in
>>>the budget to support publication design costs for internal
>>>development of the abstract book by Gryphon. Once the content and
>>>design is complete and approved, it will be sent to CLS for printing,
>>>binding and shipping to Jordan.
>>>
>>>2. Following further conversations regarding labor requirements for
>>>Gryphon Senior Analysts (SME I, II) to meet deliverables under the
>>>conference timeframe, and the support required for research
>>>collaborators, the budget for hours on the project has been updated.
>>>Revisions to labor hours reduce the total labor costs by $1,262.44.
>>>Costs/Hours included for Research Collaborators are to support
>>>Scientific Advisory Committee members from various ethical
>>>organizations and universities across the region that will be
>>>responsible for reviewing technical materials prepared by Gryphon for
>>>presentation, reviewing and selecting applicants for attendance,and
>>>providing overall scientific engagement, collaboration and regional guidance to support this event.
>>>
>>>If you have further questions, or require additional information,

>>>please let me know.
>>>
>>>Thank you[(b)(6)]
>>>
>>>[(b)(6)]
>>>Program Manager
>>>Metabiota Inc.
>>>[(b)(6)]
>>>
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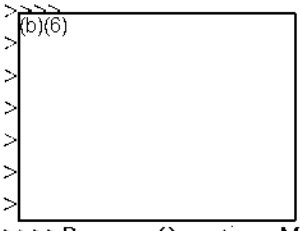
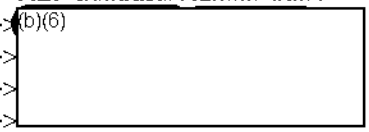
>>>
>>>
>>>
>>>
>>>On 6/26/15, 8:06 PM, [(b)(6)]
>>>[(b)(6)]
>>>
>>>>Hi [(b)(6)]
>>>>
>>>>Some minor issues requiring clarification and revision.
>>>>
>>>>1. CLS will be used for printing & shipping of materials for the
>>>>workshop. Please remove all associated costs from the proposal.
>>>>
>>>>2. Information is required regarding the names, role &
>>>>responsibility, and hours for each of the individuals captured in
>>>>the 820 hours proposed for Research Collaborators.
>>>>
>>>>Cheers,
>>>>[(b)(6)]
>>>>
>>>>Email: [(b)(6)]
>>>>Phone:
>>>>Mobile:
>>>>
>>>>
>>>>-----Original Message-----
>>>>From: [(b)(6)]
>>>>Sent: Tuesday, June 02, 2015 5:40 PM
>>>>To: [(b)(6)]
>>>>Cc:
>>>>Cl
>>>>
>>>>Subject: Metabiota AEP TD-004 MESA
>>>>
>>>>Good Afternoon [(b)(6)]
>>>>

>>>>Attached, please find Metabiota's technical and cost proposal and
>>>>budget in response to technical direction 004 for the Implementation
>>>>of an Epigenetics and Genomics of Infectious Diseases Workshop in
>>>>the Middle East South Asia Region sent by DTRA on May 26, 2015.
>>>>
>>>>Also attached, please find our official transmittal letter.
>>>>
>>>>Please feel free to contact us with questions or concerns.
>>>>
>>>>Thank you,
>>>>


>>>>Program Operations Manager
>>>>AEP Contracts Administrator
>>>>


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>>>>
>>>

From: (b)(6)
To:
Cc:

Subject: RE: Metabiota AEP TD013 Continuation of CHe Health Epi Training Uganda
Date: Friday, July 24, 2015 12:58:02 PM

(b)(6)

The Government is requesting that Metabiota provide a revised Technical proposal and ROM for TD-013. In general, CBEP concurs that some of the proposal elements submitted by Metabiota are technically necessary and appropriate for continued implementation of existing requirements during the Option Period. However, clarification and justification is necessary before activities can continue to ensure transparency and programmatic responsibility. Please ensure that Metabiota's revised proposal addresses the following questions:

1. Metabiota proposed a Period of Performance (PoP) from May 15- Dec. 31, 2015 and activities were to begin June 1. Can Metabiota clarify the number of hours associated with activities and costs incurred prior to proposal submission on July 6?

2. According to the labor matrix in the cost estimate, Metabiota is proposing labor hours for Program Manager, Trainer I, II, and III; SME I and III; and a Research and Data Analyst. However, in the Labor section of the technical proposal, Metabiota did not to provide a technical description of Trainer II, as well as SME I&II. In addition, the proposal provides a technical description of Scientific Mentor, but no labor hours are associated with this position in the cost estimate. Can Metabiota clarify each labor category required and ensure that it adequately aligns with the labor matrix in the cost estimate?

3. Metabiota is proposing 960 hours for the four in country trainers at a billable rate of $126.43. According to the latest memo from the US Embassy Kampala, in-country, Ministry of Health trainers are not to receive salary supplements. Therefore, CBEP requests clarification/justification for these labor hours.

4. The labor matrix includes labor hours for proposal development. Generally, proposal development hours are embedded in PMO/overhead costs and not included in the proposal. If CBEP decides not to move forward with the activity, does that mean the program still incurs the cost of proposal development? Please clarify.

5. The Labor Estimate page breaks down the cost and total hours for each labor category and whether or not they are FTEs. However, it does not mention how many FTEs or otherwise will support individual activities under each category. CBEP suggests an additional column to include quantities, where applicable.

6. Metabiota proposed and provided a technical description for a Program Manager. However, in the Labor Matrix, labor hour were included for three Program Managers. CBEP believes this is unreasonable and seeks clarification and justification for the need to include labor hours for three program managers.

7. In the travel estimate cost, Metabiota proposed ground transportation costs for (b)(6) separate from that of (b)(6) Can Metabiota clarify the need to include separate ground transportation costs to and from the trainings if the individuals will be attending the same training?

8. In the Component 1 section, under 'process' Metabiota proposed 4 trainings total with 3 trainers, however, in previous and later sections of the proposal, 4 individual trainers are listed. Can Metabiota provide clarification as to how many trainers will support this activity?

9. In the Component 1 section of the proposal, under 'process,' it is proposed that "Metabiota will coordinate with local partners to disseminate timely and accurate correspondences and Letters of Invitation (LOI) to all participants and trainers." CBEP understands this to be an activity supported by CDC. Can Metabiota better explain its role in this activity with CDC?

10. In the 'deliverables' section of Component 1, numbers 1, 2 & 3 are specific Project Management activities, not tangible deliverables. Can Metabiota clarify if there are deliverables to be associated with these activities?

11. Deliverable #1 under Component 2 is contradictory to Deliverable #4 in Component 1. If all final training related documentation is to be submitted during Component 1, what specific documentation will be developed during Component 2?

12. Deliverable #2 of Component 3 is redundant to Deliverable # 2 of Component 2. Can Metabiota explain how the After Action Report and the Training Trip Report will differ?

13. In the Execution section of the Management Approach, under 'project administration,' Metabiota proposed that "routine calls and communication will be held with DTRA CBEP regional leadership and Metabiota to provide status updates and ensure project implementation expectations are met." Can Metabiota explain when these calls will occur and how often?

Thank you.

(b)(6)
Contractor
Contract Specialist, TENICA
(b)(6)
Telephon (b)(6)
**Please note the new email address: (b)(6)

-----Original Message-----
From: (b)(6)
Sent: Monday, July 06, 2015 8:48 PM
To: (b)(6)
Cc:
Subject: Metabiota AEP TD013 Continuation of One Health Epi Training Uganda

Good Evenin (b)(6)

Attached, please find Metabiota's Budget and Technical Proposal in response to Technical Direction 013 Continuation of One Health Training in Uganda.
Please feel free to contact me with questions or concerns.

Thank you!

(b)(6)
Program Operations Manager
AEP Contracts Administrator
(b)(6)
Skype (b)(6)

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From: (b)(6)
To:
Cc:

Subject: Re: Metabiota's Budget and Technical Proposal for TD 008 Clinician Training Uganda
Date: Friday, July 10, 2015 5:47:04 PM
Attachments: Travel Costs Uganda Clinician Training Projected v5.xlsx

Dear (b)(6)

Per (b)(6) guidance regarding communications while he is on leave, I am submitting revisions to questions pertaining to TD-008 (Clinician Training in Uganda) below.

Please let me know if any further clarification is required.

Very respectfully,

(b)(6)

On 7/1/15, 2:58 PM, "Newman, Carl I CIV DTRA J3-7 (US)" <carl.i.newman.civ@mail.mil> wrote:

Hi (b)(6)

In general CBEP concurs that the proposal elements submitted by Metabiota are technically necessary and appropriate for continued implementation of existing requirements during the Option Period. However, clarification and justification of the below items is necessary before the approval can be provided.

1. According to the labor matrix provided in the proposal, Metabiota is proposing a total of 740 hours for two Program Managers (PMs); one each from Metabiota and the Alliance. Please clarify the distribution of hours is for the two PMs proposed, and the individual contributions from each for implementing the requirement.

(b)(6) (b)(6) Alliance Program Manager): Of the 740 PM hours proposed, 592 hours were proposed for his estimate is based actual hours charged for Clinician Training through the AEP base period. Moreover, the proposed hours will support the Alliance's management of in-country training and coordination with their local partner Walimu, as well as other Ugandan stakeholders. Additionally (b)(6) erves as the interface between Alliance and Metabiota as well as the interface between Alliance and Walimu. She is tasked with ensuring that the trainings stay within budget, on schedule, and within scope. She will also be responsible for the management of documentation and provision of deliverables – including monthly reporting and invoicing.

(b)(6) Metabiota Program Manager): Of the 740 PM hours proposed, 148 hours were proposed for (b)(6) This estimate is based actual hours charged for Clinician Training through the AEP base period. (b)(6) responsible for ensuring that all performers are compliant to the Department of Defense regulations (e.g. FAR). Additionally (b)(6) responsible for the managing submission of all programmatic deliverables (e.g. CDRLs), and is also tasked with monitoring the performance of the subcontractors (e.g., Alliance and Walimu), ensuring that the CLS requests are submitted for trainings, communication and approval of all travel requests from the subcontractor.

2. Metabiota proposed 5,180 hours for training material development, adaptation, and implementation; however, it is unclear how much of the proposed hours is for development, adaptation, or implementation. In particular, CBEP is of the understanding that training materials have been developed) and adapted for use in the 11 training events conducted in the AEP base year; leaving reproduction as the only activity required to implement the requirement. Please clarify the separate level of effort, for each proposed labor category, for training material development, adaptation, and implementation.

Program Management (Alliance)

Of the 5,180 hours proposed under Training Material Development, Adaptation, and Implementation, 1,036 hours were budgeted for Alliance Program Management, which will include management and oversight of all Alliance programmatic responsibilities. The remaining 4,144 hours were budgeted specifically for Development and Adaptation, and Implementation, as described below.

Development and Adaption (Alliance)

Training materials have been developed; however, as real-time feedback is received from ongoing trainings, the Alliance and Walimu are identifying potential gaps in information, which require some level of further development (or adaptation).

Of the hours proposed, ~444 hours were budgeted for further adaptation of training materials (see SME 3 narrative below). They will utilize course surveys and interview sessions with participants to adjust for regional relevance regarding the training materials. These activities will take place throughout the PoP and will be executed in real time.

Implementation (Alliance and Walimu)

Of the hours proposed, ~3700 hours were budgeted for implementation of training activities. Briefly, the (2) SME 2s and the (3) SME 1s will focus 100% of their labor on the implementation of the training materials; to include lecture session, workgroup exercises, pre and post testing of participants, and collection of the surveys. Of note, (b)(6) hours (1,332 SME 3 hours) were budgeted to support both adaptation and implementation activities, but included to the 3,700 hours for training implementation.

3. Metabiota proposed the need for SME 1, 2, & 3, but the technical description for each level SME is the same, and their individual involvement remains unclear. Additionally, there is no justification for the varied hours required for each SME. SMEs 1 &3 are allotted 1,776 hours while SME 2 is allotted only 592. Please clarify the number of individuals in each SME category and how each will individually contribute to implementing the requirement.

SME 3 (3 individuals):

(b)(6) hours are based upon a calculation of the technical requirements for assistance at each step of the introduction and implementation process for regional training events in Uganda.

In addition to their implementation responsibilities, SME 3s are tasked with the ongoing adaptation and re-development of training materials. These individuals bring a significant depth of clinical expertise and experience in clinical instruction, training, and mentoring. Their estimated labor breakdown is as follows:

(b)(6)
32 hrs
2 hrs
222 hrs

(b)(6) as spent the majority of his time, since 2006, working as a researcher, instructor, and clinician in Uganda. His primary research focus is on the management and pathogenesis of patients hospitalized with sepsis syndromes, primarily at two Ugandan government hospitals – Mulago National Referral Hospital and Masaka Regional Referral Hospital. In addition, he has been a consultant for WHO working and writing groups, which focus on improving the management of critically ill patients in austere settings. (b)(6) will bring hands-on regional experience and mentor local clinicians, in addition to serving as a core trainer, to the program.

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(b)(6) erves as the Director of Research and Global Emergency Medicine at Carolinas Medical

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SME 2 (2 individuals):

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(b)(6) 44 hrs (75%)
8 hrs (25%)

(b)(6) an assistant professor of clinical tropical medicine in Tulane's Department of Tropical Medicine, but is based in Lima, Peru. She has been working with the World Health Organization and spent part of September 2014 traveling to Sierra Leone to provide technical assistance in Ebola case management and training. In addition to functioning as a core trainer, she will continue to develop clinical training materials to improve the training and safety of health workers in Uganda in this program.

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The Breakdown of hours per phase and for each partner is listed below.

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- Estimated hours required for implementing all scheduled trainings through February.

Overall, Metabiota will be responsible for the contracting component of this effort – ensuring DTRA compliance of our in-country performers.

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The rates have been revised to conform to consistency with the respective regions. Please see that attached file entitled "Travel Costs Uganda Clinician Training".

7. Metabiota proposed 8 trips in total. These included 3 trips lasting 7 days with 2 persons per trip, and 5 trips lasting 14 days with 1 person per trip. However, it is unclear what the purpose of each trip is, who the travelers are (and their affiliation), the destination in Uganda for each trip, and why the trips differ in duration and number of travelers. Please clarify the proposed travel details, as the budget narrative is insufficient to determine if the proposed travel is reasonable and appropriate..

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For each event, two travelers from Metabiota will attend, with one traveler from the Alliance. The specific purpose of attendance by Metabiota is to ensure programmatic oversight and execution. One program manager and one SME/Trainer will attend and provide daily reports on the training, which will be consolidated into each Training Trip Report (TTR). The Alliance will send a program manager to oversee the trainers and the coordination of each event.

The trips differ in length due to the trainings that will occur at each region. For example, many events include two regional sessions, and also a Train the Trainer session, and will be longer than an event that is only in-hospital training.

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before the end of the PoP. Please clarify the schedule and cost proposal to reflect what will be realistically implemented under the remaining time in the PoP.

The schedule and cost proposal include training events for May, June, and July, which have been previously scheduled and approved. At the time of proposal development and submission (10 June 2015), the May training events (2) had been completed and implementation of the first June training event had begun (8 June 2015). To this end, of the 11 scheduled training sessions for Phase 1, three were completed or underway, leaving eight remaining events. At this time, Training Event Plans have been submitted and approved for all remaining scheduled trainings shown in Table 1 of the Proposal.

9. Metabiota proposed purchase of equipment such as tablets, tethering for tablets and pulse oximeters. The procurement of pulse oximeters seems a necessary and adequate procurement, however CBEP requests clarification on the procurement of tablets and tethering. Is this government furnished property to be used for these trainings? Were these (or similar) items used during the eleven training sessions that were already implemented? Please clarify/justify the reason for the procurement of these items, as well as the intended disposition of this property once the PoP ends.

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The provided tablets contain an eBook version of all training materials, including the VHF pocket guide, as well as applicable photos and charts, which were employed for the training event at each hospital. The tethering is required to discourage theft and illegal resale, as Uganda has a significant amount of criminal activity. The intended disposition of the property is that it remains with each designated hospital to support the technical collaboration needed for ongoing learning and back up, in addition to mentoring visits.

10. Metabiota proposed logistics support for five events. This is inconsistent with the number of sessions proposed in the schedule and what is remaining in the PoP for phase 1. Please clarify the number of training events that can reasonably implemented in the remaining PoP, and propose logistics support accordingly.

Phase 1 (16 May – 31 August) includes 11 unique training events occurring in 5 regions of Uganda. All trainings within the regions of Arua, Rwenzori, and Kabale have been or will be completed without the utilization of CLS, as was approved in the original proposal. Metabiota submitted their response to the Letter of Technical Direction 008 (Clinician Training in Uganda) on 10 June 2015. Due to the compressed timeframe associated with proposal development and submission, and to ensure continued implementation of training events prior to August, Metabiota budgeted for support of five training events (e.g., all June events). The aforementioned costs would cover logistical support services due to the compressed schedule of execution. Transitioning in-country logistical support to CLS in August allowed for compliance with regard to development and submission of the necessary CLS forms. CLS will be utilized for logistical support services of Mbarara and Gulu trainings, encompassing 4 trainings in two locations. Implementation of any/all Phase 2 training events would leverage CLS for in-country logistics support.

Cheers,

(b)(6)

Email (b)(6)
Phone
Mobil

-----Original Message-----
Fro (b)(6)
Sent: Wednesday, June 10, 2015 10:39 PM
To (b)(6)
Cc

(b)(6)

Subject: Metabiota's Budget and Technical Proposal for TD 008 Clinician Training Uganda

Good Evening (b)(6)

Attached, please find Metabiota's budget and technical proposal in response to the above referenced Letter of Technical Direction sent by DTRA on June 08, 2015.

The Technical Direction provided an estimated Period of Performance end date of August 30, 2015. Metabiota intends to continue to engage IMAI-IMAIC (Alliance) for implementation. The total Rough Order of Magnitude is estimated at $1,207,176 for a Period of Performance of May 16, 2015 to August 30, 2015 (Included in attachment "Metabiota_AEP _Budget 1_TD008_Clinician_Training_Uganda_20150610").

The Alliance, has provided eleven (11) effective trainings under the AEP Contract and has designed a full training plan, which includes twenty-five (25) additional trainings for an estimated total thirty-six (36) training events. To capture the optimal effectiveness of the Clinician Training Program, Metabiota proposes a second Rough Order of Magnitude of $1,562,600 for a period of performance of September 1, 2015 to February 28, 2016 (included in attachment "Metabiota_AEP _Budget 2_TD008_Clinician_Training_Uganda_20150610").

Acceptance of the full training program as described in Metabiota's proposal would equate a base price of $1,207,176 and an option period price of $1,562,600. The total estimated price would be $2,769,776 for a Period of Performance of May 16, 2015 to February 28, 2016.

Please feel free to contact me with questions or concerns.

Thank you,

(b)(6)

Program Operations Manager

AEP Contracts Administrator

(b)(6)

Skyp (b)(6)

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

From: (b)(6)
To:
Cc:

Subject: RE: Metabiota"s Budget and Technical Proposal for TD 008 Clinician Training Uganda
Date: Thursday, July 23, 2015 12:46:59 PM

(b)(6)

The Government is requesting that Metabiota provide a revised Technical proposal and ROM to include the revised travel costs and answers to the requested revisions. Metabiota's response to the original clarification questions for this Technical Directive only included updated travel costs and answers in the body of the attached email. It is difficult to assess whether the clarification questions were properly addressed in both the technical proposal and ROM (please see email below for reference).

Please let me know if you have any questions.

Thank you,

(b)(6) Contractor
Contract Specialist, TENICA
Defense Threat Reduction Agency (DTRA)
Telephone: (b)(6)
**Please note the new email address (b)(6)

-----Original Message-----
From: (b)(6)
Sent: Friday, July 10, 2015 5:47 PM
To: (b)(6)
Cc:
DT
Subject: Re: Metabiota's Budget and Technical Proposal for TD 008 Clinician Training Uganda

Dear (b)(6)

Pe (b)(6) guidance regarding communications while he is on leave, I am submitting revisions to questions pertaining to TD-008 (Clinician Training in Uganda) below.

Please let me know if any further clarification is required.

Very respectfully,
(b)(6)

On 7/1/15, 2:58 PM, (b)(6)

Hi (b)(6)

In general CBEP concurs that the proposal elements submitted by Metabiota are technically necessary and appropriate for continued implementation of existing requirements during the Option Period. However, clarification and justification of the below items is necessary before the approval can be provided.

1. According to the labor matrix provided in the proposal, Metabiota is proposing a total of 740 hours for two

Program Managers (PMs); one each from Metabiota and the Alliance. Please clarify the distribution of hours is for the two PMs proposed, and the individual contributions from each for implementing the requirement.

(b)(6) Alliance Program Manager): Of the 740 PM hours proposed, 592 hours were proposed for (b)(6) This estimate is based actual hours charged for Clinician Training through the AEP base period. Moreover, the proposed hours will support the Alliance's management of in-country training and coordination with their local partner Walimu, as well as other Ugandan stakeholders. Additionally (b)(6) serves as the interface between Alliance and Metabiota as well as the interface between Allia he is tasked with ensuring that the trainings stay within budget, on schedule, and within scope. She will also be responsible for the management of documentation and provision of deliverables – including monthly reporting and invoicing.

(b)(6) Metabiota Program Manager): Of the 740 PM hours proposed, 148 hours were proposed for (b)(6) This estimate is based actual hours charged for Clinician Training through the AEP base period. (b)(6) responsible for ensuring that all performers are compliant to the Department of Defense regulations (e.g. FAR). Additionally (b)(6) responsible for the managing submission of all programmatic deliverables (e.g. CDRLs), and is also tasked with monitoring the performance of the subcontractors (e.g., Alliance and Walimu), ensuring that the CLS requests are submitted for trainings, communication and approval of all travel requests from the subcontractor.

2. Metabiota proposed 5,180 hours for training material development, adaptation, and implementation; however, it is unclear how much of the proposed hours is for development, adaptation, or implementation. In particular, CBEP is of the understanding that training materials have been developed) and adapted for use in the 11 training events conducted in the AEP base year; leaving reproduction as the only activity required to implement the requirement. Please clarify the separate level of effort, for each proposed labor category, for training material development, adaptation, and implementation.

Program Management (Alliance)

Of the 5,180 hours proposed under Training Material Development, Adaptation, and Implementation, 1,036 hours were budgeted for Alliance Program Management, which will include management and oversight of all Alliance programmatic responsibilities. The remaining 4,144 hours were budgeted specifically for Development and Adaptation, and Implementation, as described below.

Development and Adaption (Alliance)

Training materials have been developed; however, as real-time feedback is received from ongoing trainings, the Alliance and Walimu are identifying potential gaps in information, which require some level of further development (or adaptation).

Of the hours proposed, ~444 hours were budgeted for further adaptation of training materials (see SME 3 narrative below). They will utilize course surveys and interview sessions with participants to adjust for regional relevance regarding the training materials. These activities will take place throughout the PoP and will be executed in real time.

Implementation (Alliance and Walimu)

Of the hours proposed, ~3700 hours were budgeted for implementation of training activities. Briefly, the (2) SME 2s and the (3) SME 1s will focus 100% of their labor on the implementation of the training materials; to include lecture session, workgroup exercises, pre and post testing of participants, and collection of the surveys. Of note, (b)(6) hours (1,332 SME 3 hours) were budgeted to support both adaptation and implementation activities, but included to the 3,700 hours for training implementation.

3. Metabiota proposed the need for SME 1, 2, & 3, but the technical description for each level SME is the same, and their individual involvement remains unclear. Additionally, there is no justification for the varied hours required for each SME. SMEs 1 &3 are allotted 1,776 hours while SME 2 is allotted only 592. Please clarify the number of individuals in each SME category and how each will individually contribute to implementing the requirement.

SME 3 (3 individuals):

Drs. [redacted] hours are based upon a calculation of the technical requirements for assistance at each step of the introduction and implementation process for regional training events in Uganda.

In addition to their implementation responsibilities, SME 3s are tasked with the ongoing adaptation and re-development of training materials. These individuals bring a significant depth of clinical expertise and experience in clinical instruction, training, and mentoring. Their estimated labor breakdown is as follows:

[redacted] 332 hrs
222 hrs
222 hrs

[redacted] has spent the majority of his time, since 2006, working as a researcher, instructor, and clinician in Uganda. His primary research focus is on the management and pathogenesis of patients hospitalized with sepsis syndromes, primarily at two Ugandan government hospitals – Mulago National Referral Hospital and Masaka Regional Referral Hospital. In addition, he has been a consultant for WHO working and writing groups, which focus on improving the management of critically ill patients in austere settings. [redacted] will bring hands-on regional experience and mentor local clinicians, in addition to serving as a core trainer, to the program.

[redacted] is an emergency medicine doctor and is affiliated with Maimonides Medical Center. She received her medical degree from University of Michigan Medical School and has been in practice for 15 years. In addition to serving as a core trainer and mentor, [redacted] will be involved in the continuing adaptation of the Quick Check+ training program by incorporation of regional knowledge from participants

[redacted] serves as the Director of Research and Global Emergency Medicine at Carolinas Medical Center. Since 2009, [redacted] has provided leadership and support for the development of emergency medicine in Sub-Saharan Africa. This effort included training and bedside teaching of dozens of local physicians and nurses at Muhimbili National Hospital in Tanzania. [redacted] will provide clinical quality control expertise, planning, and training evaluation to the training program.

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Cheers,

(b)(6)

Email: (b)(6)
Phone
Mobil

-----Original Message-----
From (b)(6)
Sent: Wednesday, June 10, 2015 10:39 PM
To (b)(6)
Cc
CTR (U
(b)(6)
Subject: Metabiota's Budget and Technical Proposal for TD 008 Clinician Training Uganda

Good Evening (b)(6)

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Please feel free to contact me with questions or concerns.

Thank you,

(b)(6)

Program Operations Manager

AEP Contracts Administrator
(b)(6)
Skyp(b)(6)

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From: (b)(6)
To:
Cc:
Subject: Re: Moodle training schedule

Hi (b)(6)

Wonderful, thank you for sending this all over! And we confirm receipt of the invoice, thank you. We'll work on getting that paid ASAP this week.

Although you can't reserve and schedule our trainings until the invoice is paid – as a heads up, we're going to want to have the admin training during afternoon of 6/30. Would either 2-4 PM EDT or 3-5 PM EDT be feasible? The preferred dates and times for the course instructors and local staff support trainings will require a little more scheduling due to the time zone differences, so I'll send those over to you later this or next week.

Thank you,

(b)(6)

From: (b)(6)
Date: Monday, June 20, 2016 at 1:28 PM
To: (b)(6)
Subject: Moodle training schedule

(b)(6)

After our conversation on Friday, I was reminded that we bill for online Moodle training in 3-hour blocks of time. So rather than the 5 hours we discussed, I'm going to recommend 6 hours of online training to meet your needs with Moodle. If we don't use the extra hour, we can save it for trouble-shooting any issues that may come up after your program launches.

As discussed, I would recommend scheduling 2 hours for your course developers (perhaps with a 1 hour trouble-shooting session after they've begun developing course content), followed up by 2 hours with your course instructors, and 1 hour with your local support staff. Depending on your program deployment schedule, it may be wise to space out the training sessions so we can allow your developers some time to get the courses put together so we can train live using those courses with the instructors and support staff.

Would a week between each training session work with your new schedule? Our available training dates include: Mon 6/27 AM or PM, Wed 6/29 AM or PM, Thu 6.30 AM or PM, Tue-Fri 7/5-7/8 AM or PM, and Mon-Fri 7/11-7/15 AM or PM. If you would prefer dates past those suggested, please let me know what you have in mind so I can check our training calendar to confirm our availability.

I will have an invoice totaling $1,500 for 6 hours of custom, instructor-led online Moodle training sent to you today. Please note that we will need to receive payment in order to reserve and schedule your preferred dates/times on our training calendar.

Regards,

(b)(6)

Managing Partner
ClassroomRevolution, LLC
8417 Oswego Rd, Suite 276

Baldwinsville, NY 13027

http://ClassroomRevolution.com
Leveraging online learning technologies since 1999
Supporting learning as a Moodle Partner since 2004

From: (b)(6)
To:
Cc:

Subject: RE: Request for review and approval TAF / T(b)(6) One Health Epidemiology Uganda
Date: Tuesday, August 25, 2015 2:28:02 PM

Approved.

Cheers,
(b)(6)

(b)(6)
Email:
Phone:
Mobile:

-----Original Message-----
From: (b)(6)
Sent: Monday, August 24, 2015 3:20 PM
To:
Cc: (b)(6)
D
C
Subject: Re: Request for review and approval TAF(b)(6) ne Health Epidemiology Uganda

Good afternoon,

Thank you for that clarification, and apologies for the miss steps. I have attached an updated Travel Authorization Form in support of TM(b)(6)
persons) from Metabiota in support of Cohort 9 Module 1 One Health Epidemiology training set to take place between October 16th-25th.

Thank you, and please let me know if I can clarify anything else.

Respectfully,

(b)(6)

On 8/24/15, 12:20 PM (b)(6)
(b)(6)
>H (b)(6)
>
>Please be sure to copy all of the relevant POCs on comms. I have added
>a few here for this particular TD.

>
>Also, more information/justification is needed for why a Metabiota PM
>is required to participate in this training event.
>
>Cheers,
(b)(6)
>Email (b)(6)
>Phone:
>Mobile
>
>
>-----Original Message
>From (b)(6)
>Sent: Monday, August 24, 2017 10:48 AM
>To (b)(6)
>Co
>Subject: Request for review and approval TAF (b)(6) One Health
>Epidemiology Uganda
>
>Good morning (b)(6)
>
>Would you please accept for your review and approval the Travel
>Authorization form in support of TM (b)(6) ersons) from Metabiota
>in support of Cohort 9 Module 1 One Health Epidemiology training set to
>take place between October 16th-25th.
>
>
>Thank you, and please let me know if I can clarify anything.
>
>
>Respectfully,
>
>
>
>
(b)(6) SPH
>Metabiota, Inc.
>(b)(6) (b)(6)
> office)
(cell)

From: (b)(6)
To:
Cc:

Subject: Re: [Non-DoD Source] Re: Request for Review and Approval TAF/(b)(6) Uganda Cohort 9 Mod 2/Cohort 10 Mod 1
Date: Friday, November 20, 2015 8:21:31 AM

Approved

Cheers,

(b)(6)
Email: (b)(6)
Mobile:

Sent from my iPhone

On Nov 19, 2015, at 5:51 PM, (b)(6) wrote:

> Good afternoon (b)(6)
> I am writing to resubmit the travel authorization in support of TD-013 One Health Epidemiology.Trip Changes were made to support availability of staff, as well as to reduce unnecessary project costs were applicable.
> Please note the overview of changes:
> * Extended stay fo(b)(6) rough 20 Dec
> * Extended stay fo ugh 20 Dec
> * Removed costs f and (b)(6)
> Very Respectfully,
>
> (b)(6)
> Metabiota, Inc.
> (b)(6) (b)(6)
> office)
> cell)
> On 10/16/15, 11:16 AM, "(b)(6) CIV DTRA J3-7 (US)"
> (b)(6) wrote:
>
> Approved.
>
> Cheers,
>
> (b)(6)
>
> Email: [redacted]@mail.mil
>
> Phone: [redacted]
>
> Mobile: [redacted]

-----Original Message-----

From: (b)(6)

Sent: Thursday, October 15, 2015 5:29 PM

To: (b)(6)

(b)(6)

Subject: Request for Review and Approval TAF/TMGonzalez/OHE Uganda Cohort

9 Mod 2/Cohort 10 Mod 1

This email was sent from a non-Department of Defense email account, and

contained active links. All links are disabled, and require you to copy

and paste the address to a Web browser. Please verify the identity of the

sender, and confirm authenticity of all links contained within the

message.

Good afternoon (b)(6)

Submitted for your review and approval, the Travel Authorization form in

support of TM (b)(6) ersons total) from Metabiota in support of

Cohort 9 Module 2, and Cohort 10 Module 1) One Health

Epidemiology

training set to take place between December 7th-11th, and December

14th-18th Respectively.

Thank you, and please let me know if I can offer clarification or answer

any questions.

Very Respectfully,

(b)(6)

Metabiota, Inc.

(b)(6)

(b)(6) office)

(cell)-

SPH

Metabiota, Inc.

(b)(6)

(b)(6) office)

cell)

<TAF_OHE_(b)(6)4_20Dec2015_v3 for DTRA Re-submission_13Nov2015.xlsx>

From: (b)(6)
To:
Cc:

Subject: RE: Request for Travel Authorization (b)(6) SEA PM to Washington DC in support of PACOM regional baseline analysis
Date: Thursday, August 20, 2015 12:34:23 PM

H (b)(6)

This trip is approved. Thanks.

Cheers,
(b)(6)

Email:
Phone:
Mobile: (b)(6)

-----Original Message-----
From: (b)(6)
Sent: Wednesday, August 19, 2015 10:59 PM
To: (b)(6)
Cc:
Subject: Request for Travel Authorization – (b)(6) SEA PM to Washington DC in support of PACOM regional baseline analysis

Dear (b)(6)

I hope this email finds you well. Please find attached a request to authorize my travel to Washington DC from 23 August – 2 September in support of completing the PACOM regional landscape analysis. This travel will be executed under TD 007, and will support the following:

Facilitation and completion of the internal review, QAQC, and draft version of the PACOM regional landscape analysis, which will be presented and submitted to CBEP regional leadership on 2 September. My travel to DC will facilitate coordination with SME's, and project personnel, finalizing the draft submission, and supporting review, and editing of the compiled open-source research. This will include, review and completion of QAQC'd materials, as well as completing additional QAQC requirements to evaluate level of confidence in gathered data, weighting and quantifying data and materials, where appropriate, and completion of the risk / gap analysis. In addition, travel is requested to attend the bi-weekly meeting with regional leads in support of submitting the draft deliverables, presenting the analysis to date, providing status updates, and continued discussion on the way forward.

If you have any questions, or require further information, please let me know.

Thank you so much (b)(6)

(b)(6)
Southeast Asia Program Manager – AEP
Metabiota Inc
(b)(6)

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From: (b)(6)
To:
Cc:

Subject: RE: Request for Travel Authorization - (b)(6) SEA PM to Washington DC in support of PACOM regional baseline analysis
Date: Thursday, August 20, 2015 12:34:24 PM

Hi (b)(6)

This trip is approved. Thanks.

Cheers,
(b)(6)

Email:
Phone:
Mobile (b)(6)

-----Original Message-----
From: (b)(6)
Sent: Wednesday, August 19, 2015 10:59 PM
To (b)(6)
Cc
Cl

Subject: Request for Travel Authorization - (b)(6) SEA PM to Washington DC in support of PACOM regional baseline analysis

Dea (b)(6)

I hope this email finds you well. Please find attached a request to authorize my travel to Washington DC from 23 August – 2 September in support of completing the PACOM regional landscape analysis. This travel will be executed under TD 007, and will support the following:

Facilitation and completion of the internal review, QAQC, and draft version of the PACOM regional landscape analysis, which will be presented and submitted to CBEP regional leadership on 2 September. My travel to DC will facilitate coordination with SME's, and project personnel, finalizing the draft submission, and supporting review, and editing of the compiled open-source research. This will include, review and completion of QAQC'd materials, as well as completing additional QAQC requirements to evaluate level of confidence in gathered data, weighting and quantifying data and materials, where appropriate, and completion of the risk / gap analysis. In addition, travel is requested to attend the bi-weekly meeting with regional leads in support of submitting the draft deliverables, presenting the analysis to date, providing status updates, and continued discussion on the way forward.

If you have any questions, or require further information, please let me know.

Thank you so much (b)(6)

(b)(6)
Southeast Asia Program Manager – AEP
Metabiota Inc.
(b)(6)

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From: (b)(6)
To:
Cc:

Subject: RE: Request to Subcontract Mosaaic
Date: Thursday, August 20, 2015 12:33:39 PM

No issues or concerns. Thanks.

Cheers.
(b)(6)

Email (b)(6)
Phone:
Mobile

-----Original Message-----
From (b)(6)
Sent: Thursday, August 20, 2015 12:27 PM
To (b)(6)
Cc
Subject: FW: Request to Subcontract Mosaaic

Hi (b)(6)

Please advise of any issues or concerns with Metabiota's request to subcontract to ETS Mosaic to support TD-001 PPE.

Thank you,

(b)(6)
ontractor
Contract Specialist ▪ TENICA
Defense Threat Reduction Agency (DTRA)
Telephone: (b)(6)
(b)(6)

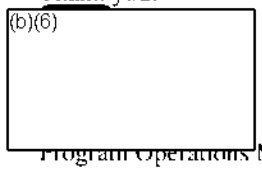
-----Original Message-----
From: (b)(6)
Sent: Thursday, August 20, 2015 12:12 PM
To (b)(6)
Cc
Subject: Request to Subcontract Mosaaic

Good Afternoo (b)(6)

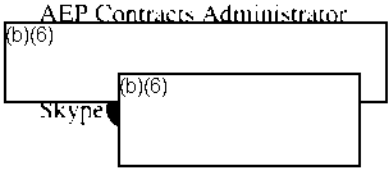
Per FAR 52.244-2 Subcontracts, Metabiota, Inc. (Metabiota) requests Consent to Subcontract with Mosaic to support Technical Direction 001 Implementation of Personal Protective Equipment (PPE) Donning and Doffing Biosafety Training in Cameroon approved via email on 23 July 2015. Included with today's request are the following items: Draft Subcontract Agreement, Sole Source Justification, Price Negotiation Memorandum (PNM).

Once reviewed, please send forward (b)(6) pproval. Please feel free to contact us with questions.

Thank you!



Program Operations Manager
AEP Contracts Administrator



Skype

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From: (b)(6)
To:
Cc:

Subject: RE: Revised Dates for Kazakhstan MERS-CoV training event
Date: Wednesday, September 16, 2015 1:41:28 PM
Attachments: CTR-CBEP_AEP_TD-002RevB_KZ_MERS-CoV_15SEP2015.pdf

....this time with the correct TD number....

Cheers.
(b)(6)

Email (b)(6)
Phone
Mobil

-----Original Message-----
From (b)(6)
Sent: Tuesday, September 15, 2015 9:00 PM
To: (b)(6)
Cc:
(US
Subject: RE: Revised Dates for Kazakhstan MERS-CoV training event

Revised TD attached.

Cheers,
(b)(6)

Email
Phone:
Mobile

-----Original Message-----
From (b)(6)
Sent: Monday, September 14, 2015 1:53 PM
To: (b)(6)
Cc:
Subject: Re: Revised Dates for Kazakhstan MERS-CoV training event

Thanks (b)(6) Hope your trip is going well!

Much appreciate (b)(6)

(b)(6)
Southeast Asia Program Manager ??? AEP
Metabiota Inc.
(b)(6)

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	2	B

4. TD TITLE

Implementation of Sample Collection and Diagnostics Training on Middle East Respiratory Syndrome (MERS-CoV) in Camels and Bats in Kazakhstan

5. TOTAL TD ESTIMATE:

HOURS: _____ DOLLARS: $ **$391,055.71**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHONE (b)(6) MAIL (b)(6)

7. CONTRACTOR POC

NAME (b)(6)

PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends to Period of Performance (PoP) end date for TD-002 from 30 September 2015 to 31 January 2016. This PoP extension is to accommodate revised dates for laboratory training, now scheduled for 7-11 December 2015.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES.:

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	193,010.11	5/16/2015	1/31/2016
1003	MATERIALS	$	69,578.14	5/16/2015	1/31/2016
1004	ODCs	$	3,062.10	5/16/2015	1/31/2016
1005	TRAVEL	$	125,405.36	5/16/2015	1/31/2016
	TOTAL	**$**	**391,055.71**	5/16/2015	1/31/2016

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$391,055.71**

12a. CURRENT PERIOD OF PERFORMANCE

16 MAY 2015 – 30 SEP 2015

12b. TD REV PERIOD OF PERFORMANCE

16 MAY 2015 – 31 JAN 2016

13. CONTRACTOR SIGNATURE AND DATE

Signature: _____

Date: _____

14. REGION

EUCOM

15. TECHNICAL POINTS OF CONTACT

Kazakhstan Country Manager (b)(6)

(b)(6)

Kazakhstan Deputy Country Manager (b)(6)

(b)(6)

CENTCOM Regional Science Manager (b)(6)

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X (b)(6)

(b)(6)

COR / J3C1B Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

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From: (b)(6)
Date: Monday, September 14, 2015 at 2:56 AM
To: (b)(6)
Cc:
Subject: Re: Revised Dates for Kazakhstan MERS-CoV training event

Thank (b)(6) I'll send a revised TD to reflect the PoP through 31 Jan 2016.

Cheers,
(b)(6)
Email: (b)(6)
Mobile:

Sent from my iPhone

On Sep 12, 2015, at 6:29 AM, (b)(6) wrote:

Dear (b)(6)

Following confirmation with Jeanne and Duke NUS trainers, we would like to move forward with holding the laboratory training event from 7-11 December 2015. We would like to request a PoP for this project through 31 Jan 2015, which will allow us to close out Duke???s contract at the end of December and ensure all deliverables / CDRLs are complete and the project wrapped up. If you have any questions, please let me know. I did not include everyone on this email chain, as I assumed we will begin the process once a revised TD is received. However, please let me know if there is anyone else I should direct this to, or if I need to make this request with contracts, etc.

I hope you enjoy your trip to KZ and look forward to hearing from you soon!

Kind regards (b)(6)

(b)(6)
Southeast Asia Program Manager ??? AEP
Metabiota Inc.
(b)(6)

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From: (b)(6)
To:
Cc:
Subject: RE: Submission of revised technical proposal TD - 010
Date: Tuesday, September 01, 2015 11:51:53 AM

(b)(6)

Per our conversation, I have reviewed the resubmitted technical and budget proposal and Metabiota has satisfactorily described the work to be done. Further, Metabiota has answered the questions CBEP posed via the technical evaluation and the CBEP-RSA team is satisfied with the responses.

Thanks,

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Monday, August 31, 2015 5:15 PM
To: (b)(6)
(U
Cc:
Subject: Submission of revised technical proposal TD - 010

Dr. (b)(6)

Please find the attached revised Technical Proposal, revised budget, and associated comment tracker providing direct responses and source references for all queries.

Please feel free to contact me with any questions or needs for clarification.

Very Respectfully,

(b)(6)
Metabiota, Inc.
(b)(6)

From: (b)(6)
To:
Cc:

Subject: RE: Submission of revised technical proposa TD - 013
Date: Tuesday, September 01, 2015 2:31:54 PM

Hi (b)(6)

Metabiota's proposal submitted on 12 August 2015, with revised budget submitted on 18 August 2015 in support of Technical Directive 013 is hereby approved for implementation with a ceiling price of $381,705.

The Contractor should use its best efforts to perform the work specified in the Technical Directive within the estimated ceiling price. The Contractor should notify the Contracting Officer in writing whenever it has reason to believe that that costs for this Technical Directive are expected to go over the established ceiling price.

Cheers,

(b)(6)
Email: (b)(6)
Phone:
Mobile:

-----Original Message-----
From: (b)(6)
Sent: Wednesday, August 12, 2015 11:29 PM
To: (b)(6)
DT
Cc:
Subject: Submission of revised technical proposal TD - 013

(b)(6)

Please find the attached revised Technical Proposal and associated budget for TD-013 in response to questions submitted by DTRA CBEP to Metabiota.

Please feel free to contact me for any clarifications.

Respectfully,

(b)(6) MSPH
Metabiota, Inc.
(b)(6)

From: (b)(6)
To:
Cc:

Subject: RE: TD-011 TAP-4 travel authorization request, Tbilisi Georgia, 31 Oct - 5 Nov
Date: Friday, September 04, 2015 9:06:11 AM

Hi (b)(6)

Travel for 1 Metabiota person is approved.

Cheers
(b)(6)

Email: (b)(6)
Phone:
Mobile:

-----Original Message-----
From: (b)(6)
Sent: Friday, September 04, 2015 8:24 AM
To: (b)(6)
Cc:
(U
Subject: RE: TD-011 TAP-4 travel authorization request, Tbilisi Georgia, 31 Oct - 5 Nov

(b)(6)

I'll pass the word that Excel versions should be submitted. It may have been implied after we made all the requested changes, but to be clear, is the travel authorization request approved?

Thanks
(b)(6)

Metabiota, Inc
(b)(6)

On 9/2/15, 12:58 PM, (b)(6)
(b)(6)
>Hi (b)(6)
(b)(6) already communicated to B&V that they need to fun (b)(6)
>travel. I like the Excel version.
>
>Thanks.

>
>Cheers,
(b)(6)
>
>Email: (b)(6)
>Phone:
>Mobile
>
>
>-----Original Message-----
>From: (b)(6)
>Sent: Wednesday, September 02, 2015 12:22 PM
>To: (b)(6)
>Cc:
>
>
>
>
>Subject: Re: TD-011 TAP-4 travel authorization request. This is
>Georgia,
>31 Oct - 5 Nov
>
(b)(6)
>
>Changes to (b)(6) travel (removal) have been made. However, I will
>note that in discussion with B&V, they agreed that it would be simpler
>to have her travel funded via Metabiota AEP, and will provide you with
>that correspondence if you desire. As travel is cost-reimbursable only
>and the cost to the government is the same either way, Metabiota has no
>preference.
>
>Re: the per diem calculation - the original calculation was correct.
>The formula in the Excel sheet used to generate the cost of the per
>diem actually takes 2*.75*per_diem+(days-2)*per_diem. The Excel and PDF
>have been provided here; the formula has been changed to explicitly
>call out 4 days*perdiem in the back half of the formula.
>
>Do you prefer to receive these as PDF or Excel? I think there has been
>a mix of approaches in the past. My personal preference would be to
>provide the Excel, but I know the incentive to provide PDF is so that
>no figures can accidentally be changed.
>
>Best regards,
(b)(6)
>Metabiota, Inc.
(b)(6)
>
>
>
>On 9/2/15, 11:56 AM, (b)(6)
>
(b)(6)
>

>>Hi (b)(6)
>>
>>Since (b)(6) s 100% dedicated to BTRIC, (b)(6) I have agreed
>>that her travel should be funded under that contract. Also, please
>>adjust the per diem amounts for Metabiota on the first & last day of
>>travel to not more than 75% of the full per diem rate. This should be
>>standard practice, since contractor per diem cannot exceed the
>>allowance for federal employees. Please make these changes & resubmit
>>so I can approve.
>>
>>Cheers,
(b)(6)
>>
>>Email: (b)(6)
>>Phone:
>>Mobile
>>
>>
>>-----Original Message-----
>>From: (b)(6)
>>Sent: Tuesday, September 01, 2015 4:44 PM
>>To: (b)(6)
>>Cc
>>
>>
>>J3-7
>>DTR
>>Subject: TD-011 TAP-4 travel authorization request, Tbilisi Georgia,
>>31 Oct - 5 Nov
>>
(b)(6)
>>
>>Attached please find a travel authorization request for Metabiota
>>personnel to attend the final regional workshop in the ASF outreach
>>project (TAP-4 in Ukraine).
>>
>>Please note that justifications have been provided f (b)(6)
>>and myself, but only one of us will travel. We are still working out
>>travel schedules internally, but did not want to delay in sending out
>>the travel authorization request. Let us know if you have any questions.
>>
>>Best regards,
(b)(6)
>>Metabiota, Inc.
(b)(6)
>>
>>
>>
>>On 9/1/15, 2:51 PM, (b)(6)
>>(b)(6)
>>
>>>Hi (b)(6)

>>>
>>>Metabiota's proposal submitted on 31 August 2015 in support of
>>>Technical Directive 011 is hereby approved for implementation with a
>>>ceiling price of $116,880.
>>>
>>>The Contractor should use its best efforts to perform the work
>>>specified in the Technical Directive within the estimated ceiling
>>>price. The Contractor should notify the Contracting Officer in
>>>writing whenever it has reason to believe that that costs for this
>>>Technical Directive are expected to go over the established ceiling
>>>price.
>>>
>>>
>>>
>>>Cheers,
>(b)(6)
>
>>>(b)(6)
>>>Email:
>>>Phone
>>>Mobile
>>>
>>>
>>>-----Original Message-----
>>>From (b)(6)
>>>Sent: Monday, August 31, 2015 4:17 PM
>>>To (b)(6)
>>>Cc:
>>>
>>>
>>>J3-
>>>DT
>>>Subject: Re: Technical Direction 011 TAP 4 Ukraine
>>>
>(b)(6)
>>>
>>>Attached please find the revised Budget and Technical Proposal, along
>>>with a comment tracker detailing the changes for TD-011.
>>>
>>>Best regards,
>>(b)(6)
>>
>>
>>>Metabiota, Inc.
>(b)(6)
>
>
>
>
>>>
>>>
>>>On 8/25/15, 10:54 AM, (b)(6)
>>>(b)(6)
>>>
>>>>H(b)(6)
>>>>
>>>>I am remiss in not getting this back to you sooner. Long story
>>>>short, additional information/clarification (as noted below) is

>>>>required before the team can approve the proposal.
>>>>
>>>>1. Travel - There is a discrepancy between the technical proposal
>>>>and the budget regarding the number of people required to travel to
>>>>Georgia for the Summary Workshop. The proposal identifies two
>>>>Metabiota personnel, but the budget includes the Project Coordinator
>>>>as a third person. Given that previous workshops for this project
>>>>have been successfully completed with two Metabiota personnel, the
>>>>addition of a third person is excessive and should be removed.
>>>>
>>>>Cheers,
>(b)(6)
>>>>
>>>>Email:(b)(6)
>>>>Phone
>>>>Mobile
>>>>
>>>>
>>>>-----Original Message-----
>>>>From:(b)(6)
>>>>Sent: Monday, June 29, 2015 8:25 PM
>>>>To:(b)(6)
>>>>Cc:
>>>
>>>
>>>>A CTR DTRA
>>>>J3-7 (US)
>>>>Subject: Technical Direction 011 TAP 4 Ukraine
>>>>
>>>>Good Evening,
>>>>
>>>>Attached, please find Metabiota's Budget and Technical Proposal in
>>>>response to the subject technical directive sent by DTRA on June 25,
>>>>2015.
>>>>
>>>>Please feel free to contact me with questions or comments.
>>>>
>>>>Thank you,
>>(b)(6)
>>
>>
>>
>>>>Program Operations Manager
>>>>AEP Contracts Administrator
>>(b)(6)
>>
>>
>>
>>>>
>>>>
>>>>
>>>>
>>>>
>>>>
>>>>
>>>>CONFIDENTIALITY NOTICE: The information contained in this electronic
>>>>mail

>>>>(email) transmission (including attachments), is intended by
>>>>Metabiota for the use of the named individual or entity to which it
>>>>is addressed and may contain information that is privileged or
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>>>>It is not intended for transmission to, or receipt by, any
>>>>individual or entity other than the named addressee except as
>>>>otherwise expressly permitted in this email transmission. If you
>>>>have received this email in error, please delete it without copying
>>>>or forwarding it, and notify the sender of the error by email reply.
>>>>
>>>>
>>>
>>
>

From: (b)(6)
To:
Cc:

Subject: [Non-DoD Source] Re: TD-013 Rev B: Uganda OHE Trng (No Cost PoP Extension)
Date: Friday, May 13, 2016 3:03:00 PM
Attachments: Draft_CTR-AEP-CBEP_TD-013RevB_Uganda OHE Training.pdf

(b)(6)

Please find our signed TD attached. We recognize this TD extends our period of performance, but does not change any other components of the previously approved activity.

Best regards,

(b)(6)
Deputy Program Director - AEP
Metabiota, Inc.
emai(b)(6)
Mobi
Skyp

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

On 5/13/16, 1:43 PM, (b)(6)
(b)(6)
>
>Please find attached, TD-013 Rev B extending the Period of Performance (PoP) from 26 Feb 2016 to 15 November 2016 and adding a Cohort 11 at no additional cost.
>
>Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also Cc'd), if you have any technical questions.
>
>Thanks.

(b)(6)
>Program Manager, Academic Engagement Partnership (AEP) Program
>J3CTB/Cooperative Biological Engagement Program
>8725 John J. Kingman Rd
>Ft Belvoir, VA 22060
>W(b)(6)
>En

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd, Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	013	B

4. TD TITLE

ONE HEALTH EPIDEMIOLOGY TRAINING IN UGANDA

5. TOTAL TD ESTIMATE:

HOURS. _____ DOLLARS: $ **$350,242**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHONE: (b)(6) EMAIL (b)(6)

7. CONTRACTOR POC

NAME: (b)(6)

PHONE. EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-013 from 26 Feb 2016 to 15 November 2016 at no additional cost. This PoP extension is to provide enough time to continue implementation of the One Health Epidemiology training program in Uganda with the addition of a Cohort 11. Metabota should coordinate directly with the Technical POCs identified below. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below. No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$350,242**

12a. CURRENT PERIOD OF PERFORMANCE

16-MAY-2015 – 29-FEB- 2016

12b. TD REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRA[redacted]D DATE

(b)(6)

Signa[redacted]

Date: 13 May 2016

14. REGION

AFRICOM/ Uganda

15. TECHNICAL POINTS OF CONTACT

Uganda Country Manager: (b)(6)

AFRICOM Science Manager: (b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X (b)(6)

COR/ JSCTP Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

>
>
>
>

From: (b)(6)
To:
Cc:
Subject: Re: [Non-DoD Source] Re: TD-016 Rev B: Georgia GIS and TD-016 Rev A: GO Genomics V3-5M
Date: Wednesday, June 01, 2016 2:12:23 PM
Attachments: CTR-AEP-CBEP_TD-016RevB_Georgia_GIS_Signed_1Jun2016.pdf

(b)(6)

Please find our countersigned TD attached.

Best regards,
(b)(6)

On 6/1/16, 2:03 PM, (b)(6)
(b)(6)
> The proposed application is approved. Please use the extra table. Table 2 in block 9b - it's not needed nor required, updated blocks 10 & 11 and signed.
>
>Please send back with your signature as well.
>
>Thanks,
>
(b)(6)
>Program Manager, Academic Engagement Partnership (AEP) Program
>J3CTB/Cooperative Biological Engagement Program
>8725 John J. Kingman Rd
>Ft Belvoir, VA 22060
>W (b)(6)
>En
>
>
>
>
>-----Original Message-----
>Fro (b)(6)
>Sent: Wednesday, June 01, 2016 10:11 AM
>To (b)(6)
>Cc
>Subject: Re: [Non-DoD Source] Re: TD-016 Rev B: Georgia GIS and TD-016 Rev A: GO Genomics V3-5M
>
>All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.
>
>
>
>
>----

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd, Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	016	B

4. TD TITLE	5. TOTAL TD ESTIMATE.
Subject Matter Expertise in Geographic Information Systems (GIS) Modeling and Regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia	HOURS: _____ DOLLARS: $ **$147,000**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE).

This revision extends the Period of Performance (PoP) for TD-016 from 15 May 2016 to 15 November 2016. This PoP extension is to continue providing expertise in geographic information systems (GIS) modeling and regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia Metabiota should coordinate directly with the Technical POCs identified below Your technical approach as outlined in TD-016 Rev A with the exception of the 3 x 1 week of trips stipulated to support GG-27 (identified in box 8 paragraph 5 and box 9c under travel), proposed budget, and basis of estimate for continuing this requirement, not to exceed $147,000 is requested by 17 May 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below. No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation
Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8 and leverages information gleaned from discussions with A&AS contractors. Originally, a key assumption for this effort was that the Georgian scientists are generally capable of conducting GIS analyses on their own. After discussions with some individuals familiar with the level of expertise in Georgia and the scientific goals sought to be accomplished in the stated projects, Metabiota believes that the Georgian scientists will require an increased level of support when conducting GIS analyses. It is anticipated that the plan for TD-016 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as SME I) time to identify the best path forward, required deliverables, anc any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:
From the information provided in Box 8, Metabiota assumes that these projects are ongoing affairs led by a third party. The Metabiota PM, PC, and GIS SME(s) will participate in communications with the CBR teams to understand what the mentoring and research needs are for each project. The Metabiota PM and PC will work with the GIS SME(s) to ensure that mentoring and research needs are met as best as possible using remote technologies. The Metabiota PM and PC will also work with the project teams to ensure that the GIS SME(s) provide inputs to project deliverables in a timely manner.

Mentoring:
Mentoring will consist of remote mentoring. After assessing the need for in-person GIS mentoring, the PM, PC, and primary GIS SME will work with the project teams to elucidate the specific goals, and requirements of each mentoring request to ensure that the mentoring visit is conducted efficiently and effectively. The primary GIS SME will work with the PM, PC, and appropriate stakeholders in each respective project to create a list of tasks to be accomplished by the Georgian scientists leading up to the mentoring visit, to create a list of topics for the primary GIS SME to be prepared to assist with during the mentoring visit, and to facilitate the communication and exchange of any necessary data or concepts both prior to and following each mentoring visit.

Reach-back support and Research collaboration:
Based on our updated understanding of the requirements and the proposed scope of the projects, Metabiota now expects to be required to provide significant GIS analysis support to the three projects, but does expect to place a significant focus on transitioning this expertise to the Georgians. Through regular communications with the respective project teams, Metabiota will be made aware of any additional subject matter expertise requests. The GIS SME will address these needs as they arise.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

Table 1: Incremental funding requested for 16 May 2016 – 15 November 2016, per CLIN. Please note that labor rates have changed.

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$132,202.28
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$132,202.28**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal

development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As some of our Subject Matter Experts and Research and Data Analysts may be independent consultants or subcontractors, the Metabiota PM will additionally oversee and ensure that all project personnel adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PM will provide management oversight of the project team, including subcontractors and independent consultants throughout the span of the project.

Metabiota Subject Matter Expert 1. The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM and will manage the GIS SME, including all subcontractors, to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline.

The PC will coordinate with the project stakeholders to identify travel dates. The PC will participate in regular communications between the project stakeholders and the GIS SME. The PC will drive the coordination required to sufficiently gather the answers to the logistical questions that will arise in the planning and execution of requested travel for mentoring activities

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the GIS SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Subject Matter Expert 2: The SME 2 will serve as the primary GIS SME and research collaborator. The SME 2 will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project and the GIS subject matter expertise needed. The SME 2 will provide remote mentoring and research collaborator support as directed by the respective project leads.

Research and Data Analysts (RDAs): It is anticipated that the SME 2 will employ multiple RDAs with GIS expertise to assist him in mentoring the Georgian scientists in the advanced GIS techniques proposed in the three research projects and to assist in performing data analysis, technical writing, and other research duties as needed.

Materials

No materials are expected to be procured for this effort.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on work conducted overseas. As no work will be physically conducted overseas, no additional funds are being requested.

Subcontracts

Subcontracts will be issued to SMEs, RDAs, and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget. Metabiota anticipates issuing a firm-fixed price level of effort (FFPLOE) contract to the GIS SME team as a mechanism for controlling costs, as Metabiota expects that the cost for the total number of hours worked by the SME2 and RDAs to far exceed the previously budgeted amount.

Travel

No travel is anticipated during the extended period of performance and thus no additional funds are being requested.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 132,202.28		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ 132,202.28**		

COMMENTS (OPTIONAL)

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ $132,202.28	15-SEP-2015 – 15 MAY 2016	(b)(6) Signa
11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:	12b. TD REV PERIOD OF PERFORMANCE	Date: 1 June 2016
$ $271,706.42	15-MAY-2016 – 15-NOV-2016	

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM/ Georgia	Georgia Country Manage (b)(6) (b)(6) EUCOM Regional Science Manage (b)(6) (b)(6)	X (b)(6) (b)(6) COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

>
(b)(6)

>My apologies for the delay in submitting our response for this TD. Please find attached TD-016 RevB, which addresses the comment listed below.
>
>Please let us know if you have any additional questions.
>
>
>Best regards,
(b)(6)

>
>
>On 5/25/16, 12:21 PM, (b)(6)
(b)(6)

>>There is one comment/clarification regarding the labor breakout for TD-016 Rev B:
>>
>>Block 9b (Table 1):
>>Within the embedded budget excel sheet, under the tab labeled "Labor Breakout", no data was provided. Please provide labor breakout for the proposed labor hours.
>>
>>Thanks,
>(b)(6)
>
>>Program Manager, Academic Engagement Partnership (AEP) Program
>>J3CTB/Cooperative Biological Engagement Program
>>8725 John J. Kingman Rd
>>Ft Belvoir, VA 22060
(b)(6)

>>
>>
>>-----Original Message-----
>>From: (b)(6)
>>Sent: Tuesday, May 17, 2016 4:11 PM
>>To: (b)(6)
>>Cc:
>>Subject: [Non-DoD Source] Re: TD-016 Rev B: Georgia GIS and TD-018 Rev A: GG Genomics VS-SM
>>
>(b)(6)

>>
>>Please find our response to TD-016 Rev B attached. For your reference and ease of tracking changes Box 9, we have highlighted all changes in yellow.
>>
>>Also, Table 1 (Box 9b) provides a breakdown of cost for this revision (e.g., Rev B) only. To provide additional clarity, we have included an additional table (Table 2), which reflects the total budget (by CLIN) for the all of TD-016.
>>
>>We welcome any feedback you may have regarding our response.

>>
>>Best regards,
>>(b)(6)
>>Deputy Program Director - AEP
>>Metabiota, Inc.
>>email (b)(6)
>>Mobi
>>Skype
>>
>>CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.
>>
>>
>>
>>
>> (b)(6)
>>On 5/13/16, 3:33 PM, (b)(6)
>>>Please find attached the updated TD-016 which includes continuing the research portion.
>>>
>>>Thanks,
>>(b)(6)
>>>Program Manager, Academic Engagement Partnership (AEP)
Program
>>>J3CTB/Cooperative Biological Engagement Program
>>>8725 John J. Kingman Rd
>>>Ft Belvoir, VA 22060
>>>W (b)(6)
>>>En
>>>
>>>
>>>
>>>-----Original Message-----
>>>From: (b)(6)
>>>Sent: Friday, May 13, 2016 1:28 PM
>>>To: (b)(6)
>>>Cc:
(US);
>>>Subject: TD-016 Rev B: Georgia GIS and TD-018 Rev A: GG Genomics VS-SM
>>>(b)(6)
>>>
>>>Please find the following TDs attached:
>>>
>>>(1) TD-016 Rev B Rev A - Extends the Period of Performance (PoP) from 15 May 2016 to 15 November 2016 with additional funds required to continue providing expertise in geographic information systems (GIS) modeling and regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia. Response to TD regarding your technical approach is requested by COB 17 May 2016.

>>>
>>>(2) TD-018 Rev A - Extends the Period of Performance (PoP) from 15 May 2016 to 15 August 2016 at no additional cost.
>>>
>>>Please note the following:
>>>
>>>*TD-017 - Will not be extended.
>>>*TD-019 - Tech team still assessing TD requirements.
>>>
>>>Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also Cc'd), if you have any technical questions.
>>>
>>>Thanks,
>>>
>>[redacted](b)(6)
>>
>>>Program Manager, Academic Engagement Partnership (AEP) Program
>>>J3CTB/Cooperative Biological Engagement Program
>>>8725 John J. Kingman Rd
>>>Ft Belvoir, VA 22060
>>>W[redacted](b)(6)
>>>Em
>>>
>>>
>>>
>>>

From: (b)(6)
To:
Cc:

Subject: RE: TD-016: Georgia GIS SME Support
Date: Monday, September 14, 2015 3:12:42 AM
Attachments: GG-27 B anthracis_ Form A_01Apr2015.pdf
GG-19 Tularemia_FormA_Revised_4_12_2013.docx
GG-20_CBEP_Veterinary_Multipathogen_Form_A_11Sept2013.pdf
TD-016_Georgia_GIS 2015-09-09 Final_signed.pdf

Thank (b)(6)

The approved TD and GG proposal docs are attached.

Cheers,
(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Sunday, September 13, 2015 8:13 AM
To: (b)(6)
Cc:
Subject: Re: TD-016: Georgia GIS SME Support

Much appreciated (b)(6)

We will begin project coordination efforts this week.

Best regards,
(b)(6)

From: (b)(6)
<
Date: Sunday, September 13, 2015 at 5:23 AM
To: (b)(6)
Cc:
J3-7
<j
Subject: Re: TD-016: Georgia GIS SME Support

H (b)(6)

COOPERATIVE BIOLOGICAL RESEARCH
Project Proposal
GG-27 – Form A Science Plan

Version Date: 01 April 2015
Version Number: 40

Project Title

Regional Study of the Ecology of Anthrax Foci in Georgia and Azerbaijan (090110001)

Project Summary

Anthrax is a livestock-borne zoonotic disease that is endemic in the South Caucasus region. There is a lack of understanding of the regional epidemiology of this pathogen and the trans-boundary factors related to its persistence. It is hypothesized that both human and environmental factors affect migration of *Bacillus anthracis* strains across borders and through regions. The proposed study seeks a clearer understanding of these risk factors and the associated trans-boundary migration of *B. anthracis* through: 1) identification of regional foci and spatial risk factors of anthrax to improve surveillance and documentation of the disease; 2) evaluation of the genetic/molecular relationships of environmental *B. anthracis* isolates to better understand the organism's ability to persist in the environment and to allow for improved epidemiologic "trace-back" of human and livestock infections; 3) collaboration on regional issues related to the control and management of a re-emerging infectious disease by sharing local/regional predictions of risk and molecular profiles of the pathogen; and 4) training and outcomes of training throughout the project.

The study will use an interdisciplinary approach combining epidemiological and epizoological data analysis with laboratory efforts to achieve the research goals. Collaborators from both Georgia (GG) and Azerbaijan (AJ) will collect and test environmental samples (soil) for the presence of *B anthracis*. Sample collections will be targeted to known burial sites and areas of previous contamination, as evidenced by livestock outbreaks or human case records. Where identified, the molecular characteristics of the pathogen will be examined using multilocus variable number tandem repeat analysis (MLVA), as well as global and regional Single Nucleotide Polymorphisms (SNPs), including a well-established Georgian SNP typing panel. Spatial genetic pattern analysis and risk factor mapping will be conducted using geographic information systems (GIS).

This project will be a regional collaboration between research institutes in GG and AJ aimed at increasing the local and regional understanding of anthrax ecology, ecological risk factors, and the genetic relationships and distribution among Georgian and Azerbaijani *B. anthracis* strains. In turn, this regional collaboration will provide the potential for the cooperative development of strategies for the control and trans-boundary management of this disease. This project builds on an existing *B. anthracis* characterization project between Georgia and Turkey (GG TAP-10), and will also utilize any *B. anthracis* samples isolated from the Georgia-Azerbaijan border region under DTRA-funded projects GG-18 and GG TAP-7.

Institutes

Lead Institute

Name:	National Center for Disease Control and Public Health (NCDC) at the Lugar Center				
Street Address:	9 Asatiani St			**City:**	Tbilisi
Region:	Caucasus	**Country:**	Georgia	**Zip Code:**	0186
Name of Signature Authority:	(b)(6)		NCDC Director General		
Tel:	(b)(6)		**E-mail:**	(b)(6)	

Collaborating Institute

Name:	Laboratory of the Ministry of Agriculture (LMA)				
Street Address:	65 Godziashvili St			**City:**	Tbilisi
Region:	Caucasus	**Country:**	Georgia	**Zip Code:**	0109
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DETAILED PROJECT INFORMATION

Project Description (Introduction and Overview)

Anthrax is a bacterial zoonosis caused by *Bacillus anthracis* (*B. anthracis*), a spore-forming, soil-borne bacterium with a remarkable ability to persist in the environment. Found on nearly every continent, the disease is considered a re-emerging zoonotic disease, and despite the development of anthrax vaccines for animals and humans, the disease continues to be endemic in many countries, including Georgia and Azerbaijan.

Bacillus anthracis is a member of a highly diverse group of endospore-forming bacteria. The genus *Bacillus* contains at least 51 described species and many other species of uncertain taxonomic status. *B. anthracis*

has been classified as a "Category A" organism by the US Centers for Disease Control and Prevention (CDC) and is considered a potential weapon for bioterrorism.

Animal transmission of *B. anthracis* is classically defined as ingestion of soils, contaminated plants, or contaminated water, as well as mechanical transmission from flies [1-3]. The toxins produced by the vegetative bacterium are associated with virulence and differ from the toxins produced by other *Bacillus* species. Due to the environmental stability of spores, *B. anthracis* can remain viable in soil for many years and because its persistence does not necessarily depend on animal reservoirs [4], *B. anthracis* is extremely difficult to eradicate from endemic areas.

Anthrax has recently re-emerged as a veterinary and human public health concern in Georgia. In addition to expanding geographically, the number of reported human cases (355) from 2011-2013 has increased nearly three-fold over the previous three years and more than 40-fold since 1985-1987 [5, 6]. Moreover, approximately 2,000 *B. anthracis* foci are registered in Georgia, of which more than 20% are active (Dr. C. Machitidze, personal communication) illustrating endemicity throughout Georgia (Figures 1 and 2). Recent research has shown new areas of emergence and clustering around urban centers in Georgia, which contrasts the normal pattern of high infectivity associated with rural agriculture or remote areas [5, 6]. Despite the endemic nature of the disease in Georgia, few studies have been conducted on the distribution and genetic diversity of *B. anthracis* strains near the borders of the country.

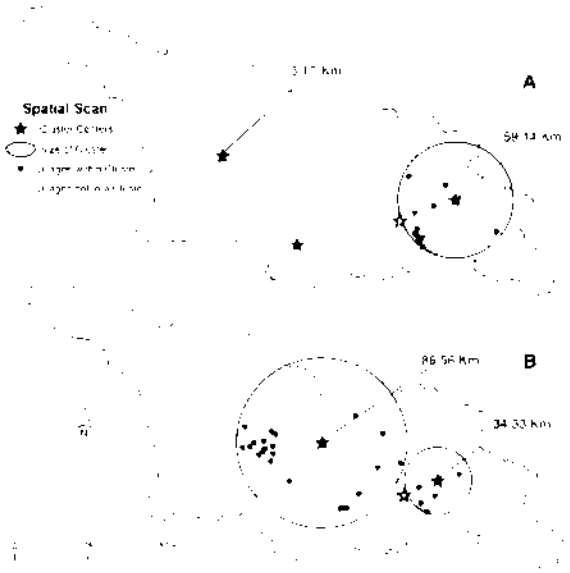

Figure 1. *Spatial Clustering of human cases of anthrax in Georgia. Panel A shows clusters during 2000-2004 and panel B shows clustering during 2005-2009. Figure provided by Ian Kracalik, University of Florida.*



Figure 2. *Preliminary map showing the geographic distribution of livestock anthrax cases in Georgia during 1881-2014. Light grey color represents sporadic zones (2-5 cases), dark grey represents endemic zones (6-14 cases), and red represents hyperendemic zones (> 15 cases). Figure provided by Ian Kracalik, University of Florida, University of Florida.*

In Azerbaijan, *B. anthracis* has been responsible for large outbreaks of anthrax in humans and livestock. Although reporting is more infrequent in Azerbaijan than in Georgia, anthrax has persisted for decades across a wide geographic expanse. The disease is considered to be sporadic in Azerbaijan although it is bordered by countries that are hyper-endemic [7], and recent evidence has shown that distribution of anthrax in Azerbaijan has undergone changes in its occurrence and spatial distribution [5]. Given the recent re-emergence of the disease in Georgia, there is growing concern over the status of the disease in Azerbaijan.

In 1996, Azerbaijan experienced more than 300 anthrax cases in sheep, and more than 70 human cases, prompting the initiation of a preemptive livestock vaccination campaign. Evidence suggests that the campaign was effective in reducing the burden of human disease [7]. However, recent human outbreaks have raised concerns over the re-emergence of the disease, especially given the relatively few reported livestock cases in relation to these human cases. Although the region is experiencing an increased number of anthrax cases, few scientific efforts have been made to link trans-boundary outbreaks of anthrax using molecular characterization and geographic modeling. Figure 3 illustrates the geographic distribution of reported human and livestock anthrax in Azerbaijan from 1940 – 1999 by decade. While more limited in geographic distribution, a number of *B. anthracis* isolates were mapped and genotyped using the Multiple Loci VNTR (Variable Nucleotide Tandem Repeat) Analysis (MLVA-25) and Single Nucleotide Repeat (SNR-4) typing systems (Figure 4).

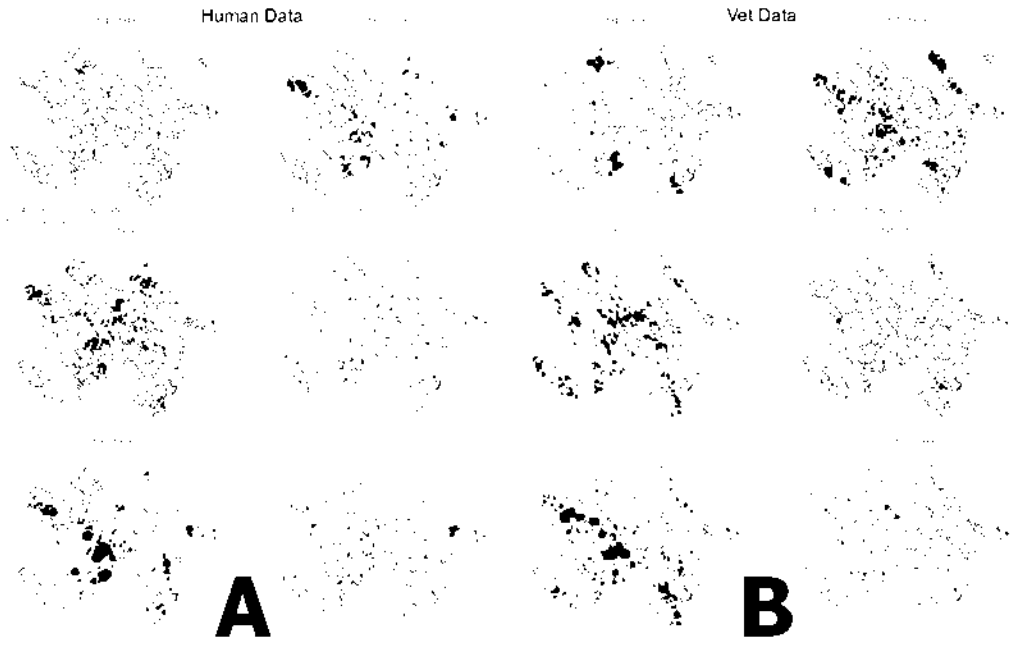

Figure 3. *Village-level reporting of anthrax outbreaks in Azerbaijan by decade in the human (A) and livestock (B) populations. Dot size represents number of years (within the decade) with outbreaks reported, with increasing size presenting a greater number of years with recorded outbreaks. Each decade from 1940 – 1990 is represented by a single map in either A or B for humans and livestock, respectively. Figure provided by Dr. Jason Blackburn, University of Florida.*

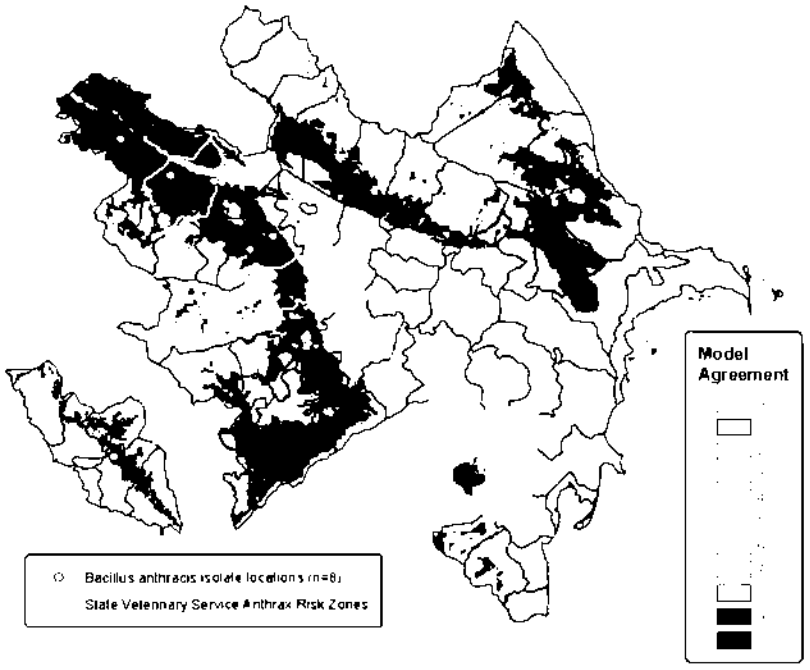

Figure 4. *Village-level locations (green dots) of human* B. anthracis *isolates from APS-Baku. These eight locations represent a total of 14 isolates genotyped. Locations are mapped over an ecological niche model-*

based estimate of the geographic distribution of B. anthracis *for Azerbaijan. Yellow outlines are those rayons defined as high risk for livestock anthrax by the AJ SVCS. Figure provided by* (b)(6) *University of Florida.*

In general, the geographic distribution of *B. anthracis* has been shown to be constrained by a combination of environmental factors such as temperature and precipitation [8, 9]. While soil pH of 6.0 or above (alkaline) and factors such as rich organic content and high calcium levels are generally considered to be suitable conditions for the persistence of *B. anthracis* [4]. Research has also suggested that specific ecological affinities may contribute to the geographic variation in the distribution of genotypes [9]. In Kazakhstan, a prediction of the current geographic distribution of *B. anthracis* was important not only for guiding the implementation of surveillance and livestock vaccination [10] but also as an indicator of how the geographic distribution of the organism may change in the future [11].

Elucidation of the molecular characteristics and relationships between the Georgian and Azerbaijani *B. anthracis* strain populations will aid in the identification and tracking of strains and their origins. In addition, genetic data, when coupled with GIS, may provide a mechanism for a retrospective epidemiological trace-back and for studying transmission dynamics, both of which will contribute to in-depth knowledge of the distribution and ecology of *B. anthracis* in Georgia, Azerbaijan, and globally.

Within the scope of this project, we will perform phenotypic profiling of *B. anthrocis* isolated from burial/contaminated sites in Georgia and Azerbaijan including:

- characterization of bacterial and colonial morphology;
- capsule production;
- hemolytic activity;
- motility;
- specific phage sensitivity;
- penicillin sensitivity; and
- Direct Fluorescent Assay (DFA) for capsule and cell wall antigen detection.

The study will cover molecular characterization of all isolated and identified strains using subtyping with SNPs and multilocus variable number tandem repeat analysis (MLVA 25). The SNP analysis will include canonical global SNP markers (canSNPs), a newly developed Georgian regional SNP genotyping panel that is already in routine use at NCDC [12], and two unique SNPs discovered in Azerbaijani isolates (Van Ert, Nikolich, and Blackburn, unpublished).

The study will also focus on developing GIS and ecological niche modeling. Participants will work collaboratively with the University of Florida (UF) team to construct models that subdivide the geographic distribution of *B. anthracis* by phenotype/genotype. Spatial modeling will build on previously derived pathogen subtypes and environmental data sets for Georgia and Azerbaijan. From an ecological perspective, integrating genetic data to refine ecological models should provide more accurate ecological envelopes with which to define the geographic range of the pathogen. Such maps should be useful in identifying areas of risk for humans and determining surveillance vaccination priorities for livestock.

Scientific Goals

This project will be a regional collaboration between the Ministry of Health and the Ministry of Agriculture laboratories in both Georgia and Azerbaijan. The goal of this study is to improve local and regional understanding of anthrax ecology, ecological risk factors, and genetic relationships among Georgian and Azerbaijani *B. anthracis* strains. These goals will be achieved through the following activities:

1. Identification and mapping of *B. anthracis* foci distribution along the Georgia-Azerbaijan border using GIS; collaborative collection of samples from affected sites (burial, contaminated areas); positive confirmation of *B. anthracis* contamination at selected sites.

2. Molecular genetic characterization of isolated *B. anthracis* strains using SNPs (canSNPs, Georgian SNP panel, AJ SNPs) and MLVA-25 to compare Georgian and Azerbaijani isolates and discern genetic patterns.

3. Analysis and assessment of geographical and environmental data from selected sites using GIS to determine risk factors associated with the persistence of the disease

4. Mapping using GIS and collaborative interpretation of the distribution and prevalence of *B. anthracis* in the border regions of both countries and regionally.

5. As a non-research aim in this project, training with and between Georgian and Azerbaijani scientists will occur throughout the project.

Technical Approach and Methodology

AIM 1: *Identification and mapping of* B. anthracis *foci distribution in the Georgio-Azerbaijan border region using GIS; collaborative collection of samples from affected sites (burial, contaminated areas); positive confirmation of* B. anthracis *contamination at selected sites.*

RATIONALE

There are several known *B. anthracis* foci in the Georgia-Azerbaijan border region, although the exact location of the foci may be unknown; in many cases, historical records list the village where the case(s) occurred without specifying the exact location(s) within the village. Old and new *B. anthracis* foci along both sides of the border will be mapped using GIS. Mapping known foci will provide Georgian and Azerbaijani collaborators with a selection of sites to sample for the presence of *B. anthracis* and provide a more thorough description of *B. anthracis* distribution along the borders of Georgia and Azerbaijan.

APPROACH

Sites will be selected for environmental sampling based on historical data provided by NCDC in GG and SVCS in AJ. These sites will include known *B. anthracis* foci, animal burial sites, and livestock grazing and holding areas in and around the selected villages. Several soil samples will be collected from each site to maximize the potential for collection of *B. anthracis*. Samples will be analyzed for the presence of *B.*

anthracis using traditional bacteriological techniques; molecular methods will be used for confirmation and characterization of isolated strains.

Geographic distribution of *B. anthracis* along the Georgia-Azerbaijan border will be determined using GIS. All known historical foci in this area will be incorporated into a modern GIS system based on existing data and maps.

There are six regions in Georgia that border Azerbaijan (Lagodekhi, Dedoplistskaro, Sighnaghi, Sagarejo, Gardabani, and Marneuli). Based on case records from 2000-2013, human anthrax cases have been registered in 39 villages in the border region and 26 villages have recorded livestock cases. In addition, many of these villages have historical foci registered from 1881-2000 (data not shown, communication from Mr. Kracalik, UF). From these villages, 30 were selected for sampling based on their proximity to the border (Table 1).

There are seven rayons in Azerbaijan that border Georgia (Gazakh, Agstafa, Tovuz, Samukh, Gakh, Zagatala, and Balakan) and each of these rayons have recurring cases of both human and animal anthrax. In these rayons, 26 villages were selected for sampling based on historical case information and their proximity to the GG-AJ border. An additional four villages from the Shamkir rayon, which is adjacent to the border rayons and has had several recent recorded cases, were also selected. In total, 30 villages from eight rayons are proposed for sampling in Azerbaijan (Table 2).

To the extent possible, sample collection and laboratory diagnostic methods will be harmonized between institutes and countries in project Quarter 1. A detailed sample collection plan will be one of the main deliverables in this quarter of the project.

Soil sampling will be based on NCDC's procedures for soil collection. After the removal of the 3-5 cm uppermost layer, approximately 100-200 grams of soil will be collected to a maximal depth of 15-20 cm. Samples will be collected using a scoop and carefully transferred to labeled double plastic bags.

Field trips will be conducted in each region or rayon during the project, with each trip requiring sufficient duration to collect soil samples from all selected sites in the region. It is expected that sample collection will be seasonal and conducted during spring and summer. The sample collection teams in Georgia will conduct a total of 40 trips – 20 for NCDC and 20 for NFA. Each institute will visit all six regions. These trips will include three to four trips lasting approximately five days. The sample collection team from Azerbaijan will undertake a total of ten field trips to eight different rayons: four to Gakh, Zagatala, Balakan; three to Shamkir, Samukh; and three to Gazakh, Aghstafa, and Tovuz. The trips will be coordinated by representatives from Gakh Zonal Veterinary Laboratory (Gakh ZVL) with support from the local Gakh Regional Veterinary Office (Gakh RVO) to minimize the amount of travel time between the selected villages.

The villages enrolled in this study have been selected based on the historical record of known human or livestock anthrax cases derived from historical datasets (.e.g. derived under DTRA projects AJ-3 and GG-18, TAP-7) or ancillary datasets available to GG and AJ laboratories (see Tables 1 and 2). Without targeting known historical anthrax outbreak sites, it is possible and likely that *Bacillus anthracis* would not be detected in environmental samples selected through a completely random sampling scheme. Therefore,

we selected 30 villages from a total of 39 candidate villages across all 6 regions within 20 km of either side of the GG/AJ border. The 9 that were omitted fell outside of that 20 km limit. All villages have a history of human and animal anthrax cases. We assume that these villages are representative of the population living along the entire border. The villages are used by both permanent residents and pastoralists that travel through the townships.

Table 1. *Georgian villages in the GG-AJ border region that were selected for sampling, and the year of any recorded cases of human or animal anthrax between 1881 and 2013 [13] (NCDC unpublished data).*

Region (GG)	Village	Year
Lagodekhi	Lagodekhi	1954, 1982
	Rachis ubani	2011, 2013
	Matsimi	No record
	Tsodniskavi	1957
	Vardisubani	1948, 1954
	Tamariani	1947
	Tsitelgori	1954
	Ulianovka	1941, 1953
Dedoflistskaro	Dedoflistskaro	1887, 1889, 1908, 1923, 1924, 1950, 1955, 1965
	Zemo Kedi	No record
	Kvemo Kedi	1971, 1985
	Arkhiloskalo	1999, 2000, 2009
	Tsiteli Sabatlo	2011, 2012
Sagarejo	Sagarejo	1985
	Udabno	No record
	Iormughanlo	1906, 1925, 1950, 1979, 1981, 2000, 2006, 2010, 2011, 2012, 2013
Gardabani	Birliki	2002
	Gachiani	2008
	Gamarjveba	2010, 2011, 2012
	Gardabani	1881, 1882, 1947, 1952, 2001, 2009, 2012, 2013, 2014
	Lemshvaniera	1996, 2001, 2002, 2003, 2004, 2007
	Jandari	1882, 1951, 1984
	Vakhtangisi	1954, 1973, 1975, 1979, 1984, 2004
	Nazarlo	1953, 1974, 2003
	Kesalo	1953, 1999, 2008, 2010, 2011
Marneuli	Marneuli	1890, 1891, 1927, 1951, 2002, 2004, 2011, 2012, 2013
	Pirveli Kesalo	1950
	Khanji-Gazlo	1950
Sighnaghi	Eris imedi	No record
	Samtatskavo	1906, 1910, 1952, 1953, 1962, 1983

Table 2. *Azerbaijan villages in the GG-AJ border region that were selected for sampling, and the year of any recorded cases of human or animal anthrax between 1944-2013 (SVCS unpublished data).*

Rayon (AJ)	Village	Year
Gazakh	Ikingi Shikhli	1968, 1971, 1972
	Biringi Shikhli	1971, 1972, 1973, 1974, 1975
	Garayazi gorughu	1969, 1972, 1973, 1974, 1975
	Yukhari Salahli	1968, 1971, 1972
	Aşağı Salahlı	1971, 1972, 1974
Aghstafa	Boyuk Kasik	1964, 1971, 1972
	Mughanli	1964, 1971, 1972
	Kochvelili	1964, 1971, 1972
	Giriq Kasaman	1964, 1971, 1972
Tovuz	Khatinli	1963, 1965, 1972, 1993
	Aşağı ayıblı	1966, 1968, 1972
	Govlar	1966, 1968, 1970, 1972, 1993
	Duzjirdakhan	1963, 1965, 1972, 1993
Shamkir	Garachamilli	1963, 1967, 1970, 1971, 1973, 1984, 1985, 1982, 1987
	Dallarjayir	1966, 1967, 1969, 1979, 1987
	Sabirkand	1971
	Gapanli	1989
Samukh	Burun Qovaq	1971, 1972
	Kasaman	1971, 1972
	Poylu	1970
	Eldar	1970, 1972
Gakh	Jalayir	2008, 2012
	Saribash	2012, 2013
	Lalamir	1948, 1950, 1960
	İngiloy Kotuklu	2008, 2012, 2013
Zagatala	Çobangöl	1958, 1967
	Abaali	1944, 1947, 1958, 1967
Balakan	Poct bina	1948, 1952
	Iti Tala	1948, 1952
	Khala-Tala	1948, 1952

Toward this, we propose to use a GIS-based approach to map historical data for the border region of AJ/GG and estimate the areas of greatest historical outbreaks. The objective of this study is not disease detection, but rather an environmental survey for detection and recovery of *Bacillus anthracis*. Confidence in the presence or absence of *B. anthracis* is similar to all ecological surveys; lack of detectable bacterium from a site is not unequivocal evidence of its absence. Rather, the goal is to sample in enough locations at an appropriate level to, on average, obtain a reasonable estimate of the distribution and isolation rate from the soil. This will allow us to classify or model the relationship of the local environment with the presence of the bacterium and to gain a cross-section of bacterial isolates to genetically characterize. The distribution of *B. anthracis* is known to be limited by ecological conditions such as soil pH, elevation, and temperature; keeping these factors in mind, we will select sites that are within the range of characteristics established in the literature and via expert opinion. GIS based maps will highlight areas with an alkaline soil pH >6.0 that are within low lying depressions or valleys that experience average annual temperatures between 20-37^0 C [14, 15]. (See Aim 3 below for details on the GIS process for estimating environmental conditions for the region).

The sampling plan is designed to provide a bias towards obtaining positive samples from the environment. This project is specifically aimed at isolating *B. anthracis*, so the selection of the actual sample site and sampling methodology within a grid, or a community within a grid cell, is likely to be influenced by local environmental conditions such as moist or alkaline (limestone) soil or the distribution of contemporary livestock within that community. Local climatological conditions (e.g. recent rains or drought) should be considered, as well as communication with local veterinary officials through the veterinary services engaged in the project from either GG or AJ, respectively, to identify known farms where either veterinary or human cases have been identified.

In total, approximately 3,000 soil samples will be collected from sites identified in Georgia and 3,000 in Azerbaijan. Safety at sample collection sites will be ensured by the use of standard personal protective equipment (PPE). We assumed the project will collect 50-100 soil samples per village or a total of 1500-3000 soils samples across all villages. Table 3 tabulates the minimum detection levels expressed as percentages for expected ranges in differences between Ba in Georgia and Ba in Azerbaijan. Note that we anticipate collecting 50-100 soil samples for each village that will permit minimum detection difference between sites of 4.2-7.0%. We will be able to detect even smaller differences as low as 1.0% to 0.7% with sample sizes >2,163.

Table 3. *Sample size calculations for recovering Bacillus anthracis from soils in study. Calculations are based on a fixed detection threshold for bacteria in soil and represent number of soils sample positive based on % of samples with detectable bacteria.*

	Minimum Detection Difference Levels (%)						
%	7.0%	5.0%	4.2%	3.0%	2.0%	1.0%	0.7%
N	50	90	100	242	536	2163	3000
Within Village	Detectable Range						
Across Village				Detectable Range			
	Assumptions: GG BA is 20% in soil; alpha=.05; Beta=.20						

Source: CDC Calculator;
https://www.dssresearch.com/KnowledgeCenter/toolkitcalculators/samplesizecalculators.aspx

Sample collection from selected villages in Georgia will be the joint responsibility of NCDC and NFA. NCDC will collect 2,000 samples, which will be transferred to the NCDC Richard G. Lugar Center for Public Health Research (Lugar Center) for processing. NFA will collect an additional 1,000 samples from livestock grazing and holding areas in and around the selected villages. These samples will be transported to LMA for further investigation. There will be 50-100 samples collected from each village, dependent on the environment, topology, and affected areas. NCDC has an approved standard operating procedure (SOP) for soil sample collection (#A30-2; p-5) in place at the Lugar Center that will be shared with Azerbaijani institutes to harmonize methods. Soil sample processing will be carried out according to approved Threat Agent Detection and Response (TADR) algorithms.

Sample collection and processing at Azerbaijani sites will be the responsibility of the Ministry of Agriculture (MoA). However, the Azerbaijani Ministry of Health (MoH) and MoA will collaboratively collect field samples when possible and in response to human cases of anthrax. When a human case is reported to the Republican Anti-Plague Station (RAPS), the RAPS sends a request to the SVCS to arrange field collection. It is expected that there will be four sites selected in each village, with 25 samples taken per site.

Sample collection and transportation will be conducted according to established biosafety and biosecurity principles. Samples will be stored at 4°Celcius (C) until analysis.

Field trips will be carefully scheduled so that the detachment teams will be in the field when the probability of isolating *B. anthracis* is expected to be high (i.e., during the time(s) of year when the highest isolation rates of anthrax were noted in the locations during any previous surveillance activities). The surveillance programs will be flexible so that the teams can be redirected to another specified region in Georgia or Azerbaijan if very few strains are isolated in historically contaminated locations, and/or depending on the prevalence of *B. anthracis* at the sites during the surveillance periods. In addition, sample collection efforts also may be fine-tuned as initial GIS data is obtained and analyzed. In addition, any active cases that are received from these defined areas will be incorporated into this project.

All field teams will be required to label each specimen/sample and to make detailed entries in the logbook, which will include at a minimum:

- An identification number for each specimen/sample
- The date and time each specimen was collected
- The name of the person who collected the sample
- The location in which the sample was collected
    - Common name (village)
    - GPS coordinates
- The type/name of the sample

Sample Processing

All specimens received will be inventoried and processed according to DTRA-approved SOPs. Upon sample receipt, information will be recorded in the Electronic Integrated Disease Surveillance System (EIDSS), if appropriate. Barcode labels will be applied for laboratory identification and specimens will be aliquoted for

future testing. When immediate processing of specimens is not feasible, they will be stored (2-6°C) and processed within 48 hours post-collection. Freezing of the specimens will be avoided whenever possible because of the possible deleterious effect of freezing on bacterial recovery [16].

Laboratory Diagnostics: Bacteriological Testing

In compliance with established DTRA protocols, the samples will be processed at the receiving laboratory and transferred to the appropriate bacteriology laboratory for further testing. According to the TADR algorithm, bacteriology and molecular biology tests will be used for the identification and confirmation of *B. anthracis*. The samples will be screened for the presence of *B. anthracis* by isolating the bacterium on agar plates and using standard, well-accepted confirmation tests. The approved TADR algorithms currently used in Georgia and Azerbaijan are shown in Figure 5 and Figure 6, respectively.

Organisms will be isolated from environmental specimens using DTRA-approved protocols. Soil organisms will be isolated by mixing 25 grams of soil with 75 milliliters (mL) of sterile distilled water and shaking vigorously by hand. Samples will be left for 60 minutes at room temperature (approximately 22°C) to allow the soil to settle, then 1,000 microliters (µL) aliquots will be taken from the surface and placed in cryovials. Samples will be heat shocked at 65°C for 20 minutes to inactivate vegetative bacteria. After heat shock, 150 µL volumes will be spread over the surface of 5% (v/v) sheep blood agar plates and Polymyxin B - Lysozyme - EDTA - Thallous acetate Agar (PLET) agar plates, allowed to dry for five minutes at room temperature and then incubated at 37°C overnight. Following incubation, plates will be examined for the presence of colonies with characteristic *B. anthracis* colony morphology. Colonies exhibiting the characteristic "Medusa head" morphology with margins that resemble tangled, curly hair will be characterized further.

Suspected *B. anthracis* colonies will be confirmed using Gram staining; lysis by gamma phage; motility testing; detection of poly-D-glutamic acid capsule by DFA; and detection of cell wall-associated polysaccharide by DFA. Suspected *B. anthracis* isolates will be genetically confirmed using real-time polymerase chain reaction (PCR) analysis [17]. All bacteriological tests will, at a minimum, be carried out under Biosafety Level (BSL) 2 conditions using BSL- 3 practices and will be confirmed using ATCC control strains.

In Georgia, isolated and confirmed strains at LMA will be transferred to NCDC Lugar Center for further genetic characterization and will be placed within the NCDC culture collection. The established transfer protocol will be used to move samples between LMA and the Lugar Center.

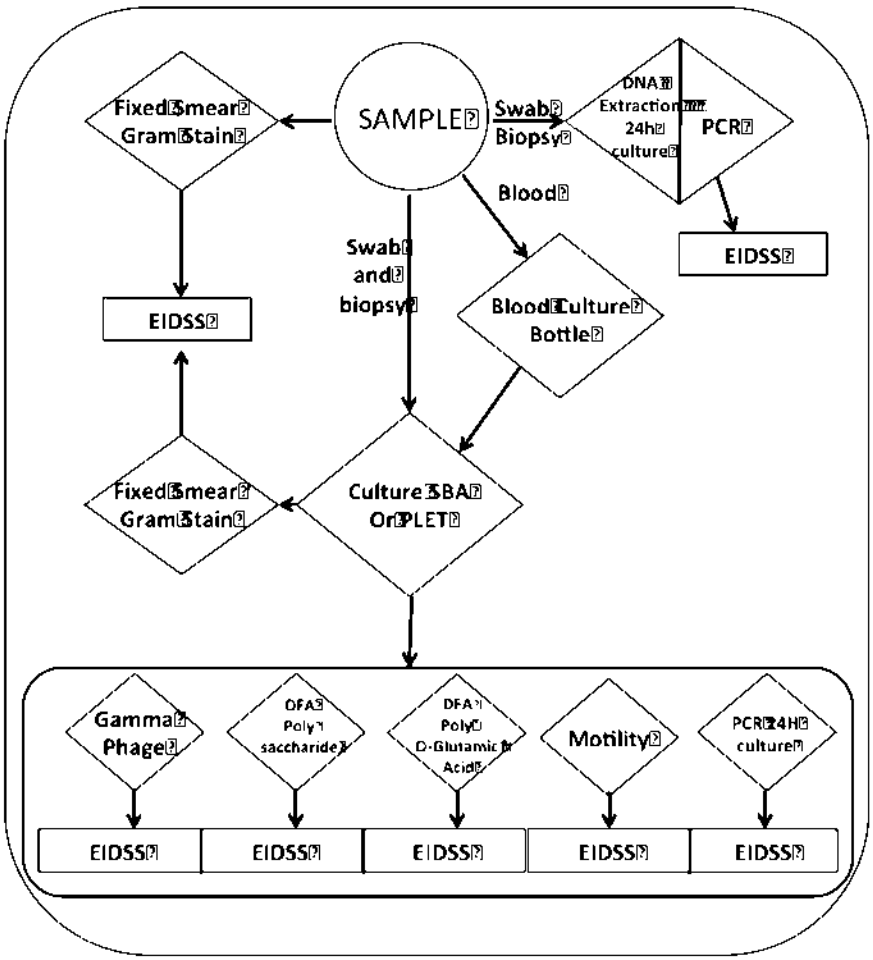

Figure 5. *Confirmatory laboratory tests for* B. anthracis*, TADR algorithm for Georgia, DTRA Approved 2008-present.*

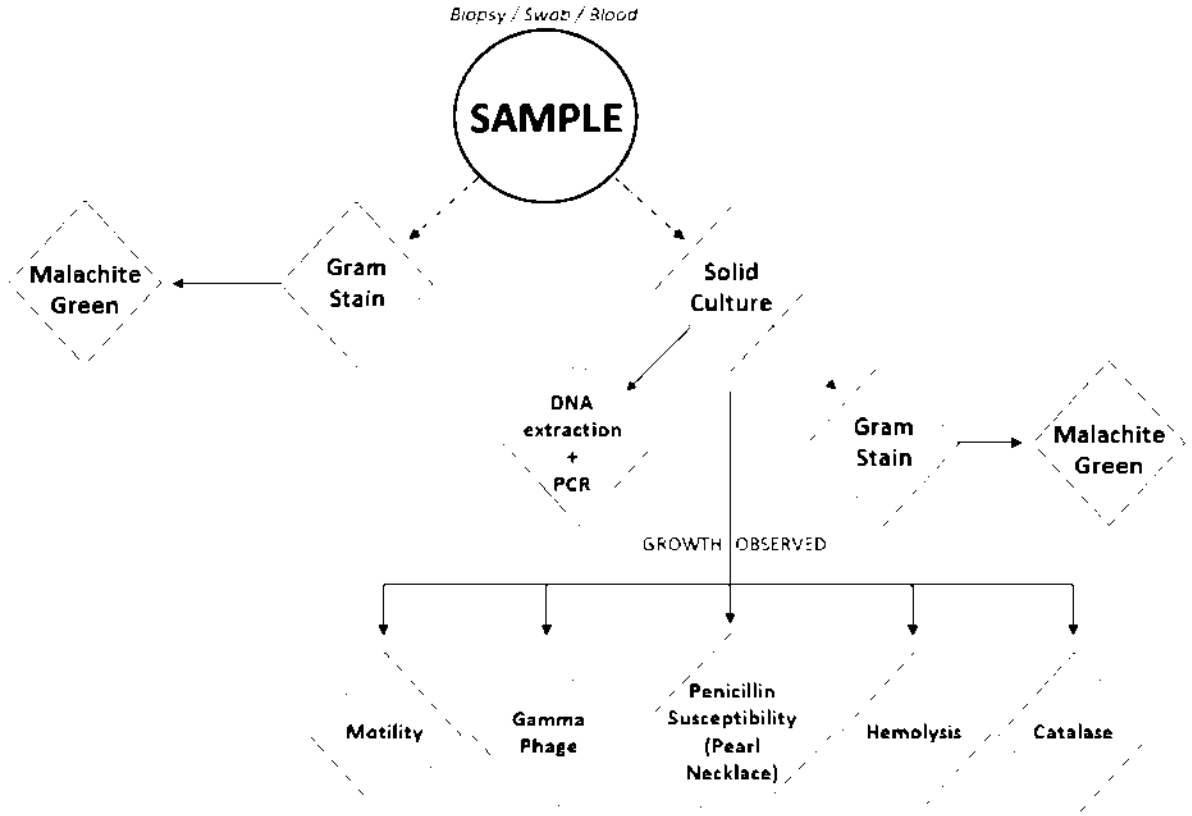

Figure 6. *Confirmatory laboratory tests for* B. anthracis, *MoA algorithm for Azerboijan. Confirmation testing can be performed at the ZVLs but is often sent to the RVL.*

AIM 2: ***Molecular genetic characterization of isolated*** **B. anthracis** ***strains using SNP (canSNPs, Georgian SNP panel, Azerbaijan SNPs) and MLVA-25 to compare Georgian and Azerbaijan isolates and discern genetic patterns.***

RATIONALE

Investigators at the NCDC and LMA in Georgia, as well as the SVCS and RVL in Azerbaijan will determine the basic genotypic properties of *B. anthracis* strains that are newly isolated from this study and compare the genetic relatedness of these strains. Some sampling of the border region was completed under the DTRA-funded projects GG-18 and GG TAP-7; any strains isolated from these samples will be utilized in this project. In addition, any new strains that are isolated in the border region as part of ongoing routine surveillance will be included for molecular characterization.

The MLVA-25 results from 14 AJ isolates were studied under the DTRA-funded project AJ-3. These isolates were genotyped and the results show that they were most closely related to Iranian *B. anthracis* strains, a southern neighbor with a well-documented history of anthrax. These strains also had a completely different lineage from published Georgian *B. anthracis* strain genotypes, the northern neighbor [12]. It is hypothesized that the Georgian and Azerbaijan isolates in the border region will show genetic diversity. Significant work has been done in a DTRA-funded Walter Reed Army Institute of Research (WRAIR) NCDC

strain characterization collaboration to implement global and regional SNP analysis of archival NCDC strains. The MLVA-25 analysis of NCDC strains through this collaboration will provide an initial basis of comparison for the previously typed Azerbaijani strains. Building on these results, the work planned in the proposed project will more fully characterize the genetic patterns of *B. anthracis* along the Georgia-Azerbaijan border region, explore the interface of genetic subtypes circulating in this region, and perhaps define natural boundaries between different lineages.

Genetic characterization of the strains will be a joint effort between regional collaborators led by NCDC with support by WRAIR/USAMRU-G. Molecular specialists from LMA in Georgia and two specialists from VCI and RVL in Azerbaijan will be trained on molecular characterization methodologies (SNP, MLVA) at the Lugar Center. Samples may be used for further molecular analysis and other future studies that are not within the scope of this project.

APPROACH

The NCDC project team estimates that the soil sampling proposed above will result in approximately 100 *B. anthracis* isolates from 3,000 soil samples. It is estimated that an additional 100 isolates will be collected as a result of soil sampling in Azerbaijan. Therefore, it is estimated that molecular characterization will be conducted on approximately 250 isolates, to account for any additional strains that may be isolated during routine surveillance activities.

All bacteriological manipulations and extraction of genetic material from Azerbaijani *B. anthracis* isolates will be conducted at the Gakh 7VL and genomic DNA will be transferred to the Lugar Center for molecular characterization. All procedures for molecular characterization of Georgian *B. anthracis* isolates will be conducted at the Lugar Center.

In order to complete the molecular characterization of isolates, a substantial amount of genomic DNA will be required. Pure culture isolates of suspected *B. anthracis* will be cultured on blood agar for 24 hours. Several loops of suspected cultures will be placed in 1.5 mL microcentrifuge tubes and heat killed, and then will be incubated for one hour in 50% v/v chloroform. Genomic DNA will be extracted using a commercially available extraction kit following the manufacturer's instructions for bacterial cultures. Purified DNA will be aliquoted and frozen for future analysis.

Sterility of samples will be determined using NCDC-approved SOPs in place at the Lugar Center. Sterility will be confirmed by removing 1-10% of the final volume and incubating in appropriate growth media. At Day +3, an aliquot will be streaked onto appropriate agar, incubated O/N, and the sterility culture will be re-incubated. At Day +7, the streaking procedure will be repeated. If no growth is observed at either time point then the preparation can be considered sterile. Primary and secondary containers will be decontaminated for 30 minutes with 1% sodium hypochlorite (NaOCl), and stored at -20°C. After sterility confirmation and surface decontamination, samples will be handled in BSL-2 containment.

Sterile DNA samples from *B. anthracis* isolates in Azerbaijan will be packaged using standard packaging SOPs and shipped to the NCDC Lugar Center following all local and regional shipping regulations. Prior to transport from Azerbaijan, DNA will be certified sterile according to the above process. Samples will be

used for genetic analysis performed through collaboration between NCDC Lugar Center staff and Azerbaijan supported by WRAIR/USAMRU-G.

Molecular analysis will include: a) use of real-time PCR assays for SNPs to determine major genetic groupings and regional genetic clusters; and b) use of Variable Number Tandem Repeat (VNTR) analysis to provide higher resolution genetic differentiation in an MLVA. Georgian and vaccine reference strains from the collection at the NCDC Lugar Center will be used as standards for comparison.

SNP Analysis

SNP analysis of *B. anthracis* has been established as an extremely valuable tool for molecular characterization of this species [18]. An SNP typing panel has previously been established at NCDC based on canonical and Georgia-specific SNPs. This type of analysis will be useful for the characterization of Azerbaijani isolates in addition to the comparison of Azerbaijani and Georgian isolates. Genetic characterization of isolated *B. anthracis* strains by SNP will include: canonical SNPs (canSNPs) to determine global phylogenetic grouping; the Georgian SNP panel to determine shared regional lineages; and Azerbaijan-based SNPs (Van Ert, Nikolich, Blackburn, unpublished) to determine if these specific SNPs are present in Georgian isolates.

VNTR Analysis

Multilocus VNTR analysis is used to characterize highly monomorphic pathogens such as *B. anthracis* and *Brucella* species [19]. A MLVA-25 technique will be utilized to analyze *B. anthracis* isolates to provide strain-level differentiation. These techniques were recently adapted for use on the ABI 3130xl platform available at the NCDC Lugar Center in the DTRA-funded WRAIR-NCDC strain characterization collaboration. This high-throughput technique allows many strains to be analyzed with relatively few reactions.

Training for the molecular genetic analyses needed to accomplish the objectives of this aim will be conducted in the Lugar Center in Tbilisi, Georgia. Specialists from the Georgian LMA and from SVCS and RVL in Azerbaijan will be trained in molecular characterization methodologies by NCDC and WRAIR/USAMRU-G subject matter experts (SMEs). The collaborators will assess skill levels of the specialists from each institution In Quarter 1 and determine a training plan for Quarter 2 and Quarter 3, including joint training to facilitate implementation toward the proposed aim. SOPs and training materials developed by NCDC and WRAIR will be leveraged for this project. Training will be integrated with new analysis/data collection where possible to expedite the project and will integrate data management and analysis/interpretation to meet project objectives. Software and computers already in place at NCDC and WRAIR/USAMRU-G will be used for planned analyses.

AIM 3: *Analysis and assessment of geographical and environmental data from selected sites using GIS to determine risk factors in persistence of the disease.*

RATIONALE

As discussed, anthrax is a widely distributed endemic disease in each Georgia and Azerbaijan, historically affecting nearly all territories within each country. Generally, the ecological conditions that support the persistence of *B. anthracis* can be defined on the landscape using statistical modeling approaches. For example, an ecological niche model based on several important ecological conditions that support pathogen persistence have been used to successfully describe the potential geographic distribution of the

bacterium in the United States and Kazakhstan [8, 9, 11]. Additionally, recent space-time human anthrax modeling efforts during the last decade (2000-2009) have confirmed that environmental drivers such as soil pH and cattle density are related to disease persistence in Georgian communities [6]. Preliminary ecological niche models based on historical data suggest that *B. anthracis*-suitable habitat is limited to a portion of the Azerbaijani landscape although additional modeling is needed to construct more robust estimations of the organism's distribution. Favorable climate conditions: abundance of humus in soil, cataclysms (flooding, soil displacement, earthquakes), and massive earth-moving construction work throughout the country likely increase the risk of disease occurrence in livestock and subsequent human exposure. Constructing updated ecological models of the distribution of *B. anthracis* in Azerbaijan and Georgia will provide crucial information regarding surveillance and risk.

APPROACH

As part of the study a set of risk models will be developed that first model anthrax presence/absence, using logistic regression, to determine if areas of disease reporting correspond to environmental covariates that predict presence. These environmental models, which take into account a number of environmental conditions, including, weather, temperature, and other factors, will also incorporate data on livestock density and agricultural practices to determine if anthrax is concentrated relative to zones of agricultural production. A GIS of livestock density developed from the Food and Agriculture Organization (FAO) data is in place for both countries [20]. In addition, databases on agricultural practices from Georgia are complete and will be developed for Azerbaijan by SVCS with assistance from the UF team.

In general, logistic regression can be used to identify factors that contribute to the log odds of a positive (presence) or negative (absence) event occurring and is written following Hosmer and Lemeshow [21]: $log\frac{p(x)}{1-p(x)} = \beta_0 + \beta_1 X_1 \ldots$, which can also be rewritten to solve for the probability of an event occurring bounded between values 0 and 1: $P(1) = \frac{\exp(\beta_0+\beta_1 X_1 \ldots)}{1+[\exp(\beta_0+\beta_1 X_1 \ldots)}$, where P is the probability of positively identifying a *B. anthracis* sample in the environment, β_0 is the intercept of the model and β_1 is the coefficient of the covariate X_1. In the case of *B. anthracis*, logistic regression can be used to model ecological characteristics such as soil pH and temperature that may support the presence of the bacterium in the environment, as previously described in Kazakhstan [15]. Field sampling strategies outlined in this study allow for flexibility in the spatial unit of the dependent variable (presence or absence of *B. anthracis*), i.e. samples can be modeled by transect, or grouped by village depending on the stability of the fitted model. Since environmental covariates are derived from remotely sensed satellite or interpolated weather station data, covariates are available in a gridded format (e.g. 1km x 1km spatial resolution). Given this data format, samples can also be assigned to a grid cell to provide another measure of a sampling unit, the selection of which ultimately depends on the success of the statistical modeling approach. The output of the model will represent the association of each covariate with the probability of positively identifying *B.* anthracis, and a spatial risk surface corresponding to the probability of the event for each combination of covariate grid cells. In some instances, the logistic model may not fit the data, which can be determined by a *past hac* statistical analyses such as the Hosmer and Lemeshow goodness-of-fit test [21]; this may lead to the adoption of other statistical models. If the logistic model is not a good fit for the data, other generalized linear modeling (GLM) approaches can be adopted that take into account a different distribution in the data through a link function. Poisson and negative binomial regression can both model the occurrence of counts (number of *B. anthracis* positive samples from field data or number of villages reporting outbreaks from historical databases), and in order to adjust for differences in collection effort, an offset in the model can be used to account for the total number of

sample collected at each spatial unit (i.e. transect, village, grid cell) [22]. In this manner the fitted values of the model will represent the natural log of $\frac{number\ of\ positive\ samples}{total\ number\ of\ samples}$ in relation to a linear combination of environmental covariates.

To overcome potential pitfalls related to our modeling choices due to the stringent assumptions of homogeneity in the variance and normally distributed residuals etc., we have also adopted ecological niche modeling methods that offer less rigorous assumptions. The Genetic Algorithm for Rule Set Production (GARP) [23] is a presence-only approach that requires known locality data to create a predicted geographic distribution of an organism based on a set of environmental parameters [24]. The approach has been used to model the predicted geographic distribution of anthrax across several landscapes [11, 25-28]. Briefly, GARP employs a pseudo-absence resampling algorithm to exhaustively sample locations from the landscape to compare to known occurrence points (here positive sampling locations). The algorithm them employs a set of computational rules based on the rules of genetics (e.g. insertions, deletions, mutation) to fit a randomly derived combination of covariates and rule-types (e.g. logistic regression functions or climate range envelopes) to pattern match non-random relationships between occurrence locations and covariates. Like the logistic or GLM approaches above, GARP then estimates rule success at predicting presence/pseudo-absence and projects those models onto the geographic landscape to predict the potential geographic distribution of the species being modeled, here *B. anthracis*. The modeling process is well described in the literature, specifically for *B. anthracis* see Blackburn et al. [26] and Mullins et al. [27].

Although the environmental conditions that support the pathogen are documented, it is not clear whether these factors are similar across Georgia and Azerbaijan. Research has suggested that different strains of *B. anthracis* may have certain ecological affinities related to soil conditions [29]. Creation of spatial risk models will allow for the differentiation of ecological conditions across the south Caucasus and will help to determine whether or not these are related to differences in molecular characteristics, when modeling efforts are coupled with the genetic analyses proposed here (SNP and MLVA-25 VNTR genotyping). In this study, we will use GG and AJ specific models and a combined model (treating both countries as a single landscape) to identify whether or not the ecological conditions that define risk hold constant between Georgia and Azerbaijan. This approach will then be repeated once isolates are defined by genotype (if sample sizes permit following guidance from Mullins et al. [27]).

In summary, these modeling approaches are proposed to estimate the potential geographic distribution of the pathogen across the shared region of GG/AJ border areas and compare those models to available models from either country, respectively (see Figure 4). We then aim to model specific genetic lineages, should data represent a sufficient sample size for spatial modeling. In each case, these models will be related to historical anthrax reporting to relate ecological conditions to risk. For that we propose to follow the modeling framework of Kracalik et al. [6] to define risk.

A regional model will determine if *B. anthracis* has a regional climate signal across genotypes or within lineages. Similar work comparing Kazakhstan, the US, and Italy shows similar lineages can have distinct environmental signatures on different landscapes [9]. The transition from Georgia's high mountain valleys to lowland Azerbaijan may provide a similar local effect to what we see across continents between the US and Kazakhstan. These efforts will yield new ecological niche models specific to AJ and GG *B. anthracis*

lineages that are not yet available. The regional risk model would be a first of its kind and provide spatial information for surveillance efforts and planned control activities.

Limitations

Modeling environmental risk factors in a logistic regression framework can take into account the sampling effort at each site, modeled as a binomial fraction $\frac{number\ of\ positive\ sample}{number\ of\ samples\ collected}$. The total effort at each site (number of samples collected) can also be used as an offset in a different GLM framework. Limitations to logistic regression include over dispersion (variance/mean >1) in the data due to variability in the probability of identifying positive samples as well as correlation among samples [21]. Given that the selection of villages and sampling sites is spatial in nature and based on historical data, accounting for spatial autocorrelation in the model residuals will likely be important [30]. By including measures of the variance between locations through the construction of a semi-variogram it is possible to account for bias or spatial dependence (non-randomness) in the location of sampling sites [31]. To overcome bias in ecological niche models, samplings sites can be filtered using a distances based approach to remove superfluous data and thereby limit over-fitting of the model [32].

AIM 4: *Mapping using GIS and collaborative interpretation of the distribution and prevalence of* B. anthracis *in the border regions of both countries and regionally.*

RATIONALE

GIS models of the geographic distribution of *B. anthracis* across the south Caucasus will provide a better understanding of anthrax transmission, disease ecology, and epidemiology for this international border area. The modeling described in Aim 3 will provide spatial estimates of the geographic distribution of the pathogen, while Aim 4 will provide spatial exploratory analyses. A substantial number of agriculturally-acquired human cases are registered annually in Georgia and the disease remains a significant threat to human health. Control of anthrax infections is a primary goal of the Public Health and the Veterinary Service in Georgia. Georgia currently has approximately 2,000 registered historical anthrax-affected areas [13], and recent reports indicate a worsening human anthrax situation [5], raising concerns over the disease re-emerging in historical foci or emerging in previously unreported areas. Similarly, in Azerbaijan (based on preliminary findings from the AJ-3 project) anthrax has persisted in human and livestock for decades. The re-emergence of the disease in neighboring Georgia has raised concerns over the spread of anthrax in Azerbaijan. This aim will employ available geospatial data (AJ-3, GG-18, and unpublished outbreak data (see Tables 1 and 2 above) to test for spatial clusters that may identify areas of significant disease reporting compared to spatially random distributions [25]. Such analyses can provide insights into prioritizing surveillance [25]. These analyses will use anthrax reporting data to better understand spatial patterns of outbreaks to augment results from soil sampling.

APPROACH

The Azerbaijani SVCS implements anthrax surveillance and control and conducts broad livestock vaccination annually. Hotspot analyses from historical human data from the RAPS in Baku illustrate high levels of agreement with risk zones defined by SVCS from a historical perspective, but do not necessarily agree with the most recent decades reported. Recent evidence from Azerbaijan further suggests that the distribution of anthrax has undergone changes in its occurrence and spatial distribution (shifting eastward), highlighting the need for further research [7]. This shift may be a result of changes in the

surveillance of post-Azerbaijani independence from the Soviet Union and may also reflect changes in the prevalence of anthrax as control and vaccination were established in recent years.

GIS analysis in Azerbaijan and Georgia (from DTRA-funded projects AJ-3 and GG-18, respectively) represent the first efforts to define areas on the landscape where *B. anthracis* might persist and, as suggested in other studies, can inform passive surveillance. For example, areas predicted to be at risk for anthrax with high model agreement should have regional diagnostic capacity for *B. anthracis* even if the disease is rarely seen. Regional hotspot analyses may assist in defining targeted control and surveillance priorities for livestock, which appears the most likely source of human disease in both countries. In the latter case, hotspots reflect known areas of repeated outbreaks. As stated above, MLVA-25 results from AJ isolates identified genotypes that were closely related to Iranian strains, and were a different lineage from published Georgian *B. anthracis* strains. More work is needed to evaluate these genetic and geographic relationships. Ultimately, linking these GIS-based models with high resolution genotyping will provide the Azerbaijani and Georgian public health systems with the ability to trace outbreaks and better define zones of risk.

Spatial analysis within this project will expand previous efforts to map anthrax in both countries. First, data from previous CBEP projects (GG-18, AJ-3; see Figures 1, 3 and unpublished data, see Tables 1 and 2) will be leveraged to develop maps of anthrax using spatial clustering analyses, such as A Multidirectional Optimal Ecotope-based Algorithm (AMOEBA) - a cluster geomorphology test that defines local spatial clusters of anthrax outbreaks [15]. Generally, spatial clusters, or hotspots, of disease can be defined as an excess of cases in space, time, or both space and time [33]. Broadly, these statistical methods can be categorized into global, local, and focal clustering. Global clustering tests are used to evaluate whether disease events are clustering over a study area, without identifying the location(s) associated with the clustering ,whereas local statistics can identify the geographic position and spatial scale of clusters [34]. Focal statistics, on the other hand, may be used to explore clustering of a disease around a specific location such as an environmental pollutant [35]. Local statistics encompass some of the commonly used distance-based statistics in spatial epidemiology such as the $G_i^*(d)$ statistics of Getis and Ord [36, 37], and the spatial scan statistics [38]. In each of these approaches, a hypothesis test is framed to compare whether or not spatial patterns of anthrax data differ from spatial randomness. In other words, we test if anthrax events are closer together in space that would be expected if the disease were randomly distributed across the study region.

In this study, spatial clustering analyses will be used for two primary purposes. First, spatial autocorrelation can violate the assumptions of the spatial modeling described in Aim 3. Techniques such as AMOEBA or the Getis and Order statistic can be employed to test for spatial autocorrelation in data to be modeled, allowing us to adequately address this in the models. Second, these techniques can be used to identify areas of greater than expected clustering of cases, which can inform surveillance priorities for the veterinary and public health services in each country.

To complete these GIS-related aims, ecological modeling and advanced GIS training will be conducted for GIS personnel at SVCS-AJ and (as needed) NCDC-GG. During project Quarter 1, collaborators from the UF will assess personnel skill levels from each institution and lay out a training plan for project Quarters 2

and 3. The UF will conduct a refresher training course at SVCS-Baku for AJ personnel within the first two quarters of the project. In addition to in-country training by UF, a series of two or three virtual meetings will be held with SVCS using Skype or GoToMeeting. These meetings will be interpreted in the local language.

For ecological and risk model training, a five-day training workshop will be held for GG and AJ participants at the Lugar Center GIS Lab. This will allow the engagement of all GIS partners in a single venue. The UF will conduct at least one additional site visit to Tbilisi and Baku later in the project, once field data are available for modeling. Training materials previously developed by the UF SEER Lab will be leveraged to provide skill development specific to the tasks of ecological niche modeling and risk modeling using either negative binomial count models or logistic regression. Training will accompany data development and organization to ensure that training specifically meets the project research objectives. During project Quarter 1, software access and computer hardware at SVCS-AJ will be assessed to ensure that appropriate software is available for the analyses planned.

AIM 5: ***As a non-research aim in this project, training with and between Georgian and Azerbaijani scientists will occur throughout the project.***

RATIONALE

Training is an important component of this regional project and the project teams from both Georgia and Azerbaijan will mutually benefit from collaboration, mentoring, and joint mentoring and training from the research collaborators, and from learning from each other. As part of this project, the approach listed below will outline the types of trainings that will be conducted and their outcomes.

APPROACH

The project teams will meet in the first quarter of this project (once in Georgia and once in Azerbaijan) to formulate and complete a detailed "Training Plan", which will be used throughout the entire project.

Table 4. *Trainings that will completed during this joint Georgian – Azerbaijan research project, this outline will be transformed into a detailed training plan during the first quarter of this project.*

Training	Provider	Number of trainees/ their affiliation	Location	Topics
BS&S Annual Refresher Training for Azerbaijan and for Georgia	BNI for AJ CH2M HILL for GG	AJ project participants from: SVCS, RVL, VCI, RAPS, Gakh ZVL	Baku RVL , AJ	Proper use of PPE in field and lab; Fit testing for N95 masks; Disinfection of vehicles and work area; Waste disposal in the field and laboratory; Risk assessment
			Gakh ZVL, AJ	
			NCDC, Lugar Center, GG	
			NFA, GG	
			LMA, GG	

Training	Provider	Number of trainees/ their affiliation	Location	Topics
BS&S field work training for Azerbaijan	US collaborators and Georgian participants	AJ project participants from: SVCS, RVL, VCI, RAPS, and Gakh ZVL	Field sites in Azerbaijan	BS&S in sample collection and transportation (Note: GG participants have already been trained and will provide training in this area jointly with US collaborators)
BSL-2 Advanced Techniques for Azerbaijan	US collaborator – WRAIR/USAMRU-G	AJ project participants from: SVCS, RVL, VCI, RAPS, and Gakh ZVL	Training will occur at the Baku RVL and the Gakh ZVL, Azerbaijan	Working with *B. anthracis* in the BSL-2 laboratory (Note: GG participants have already been trained in this area)
PCR & Bacteriology for Azerbaijan	RVL project participants	Gakh ZVL	Gakh ZVL, Azerbaijan	PCR; Bacteriology (Note: GG participants have already been trained in this area and the project team and U.S. collaborators agree that Georgian scientist as well as U.S. collaborator observation and coordination in the early stages will be required to ensure uniformity of procedures across the project)
Genotyping and analysis training in Georgia and in Azerbaijan	GG team and WRAIR/USAMRU-G	AJ participants from the RVL and VCI GG participants from the NCDC, LMA, and NFA	Lugar Center, Georgia	Single Nucleotide Polymorphism (SNP) analysis and Multiple Locus Variable number tandem repeat Analysis (MLVA-25), approximately 100 isolates of *B. anthracis* to be analyzed

Training	Provider	Number of trainees/ their affiliation	Location	Topics
GIS training	US-UF team	AJ participants from SVCS and VCI GG participants from the NCDC, LMA, and NFA	Azerbaijan and Georgia	Intermediate and Advanced GIS analysis with ArcGIS 10; GIS exploratory data analysis; Ecological modeling with niche models and logistic regression
Advanced GIS Ecological Niche Modeling	US-UF team	AJ participants from SVCS and VCI GG participants from the NCDC, LMA, and NFA	Lugar Center in Georgia	Advanced ecological niche modeling workshop for AJ / GG personnel conducting GIS work

Expected Results

Project results can be used to formulate targeted public health interventions aimed at increasing knowledge of the disease within specific demographics. At the same time, future efforts can focus on identified affected areas for livestock surveillance and control. In addition, this project will contribute to the formation of a regional research network, allowing scientists to benefit from the experience and knowledge of their colleagues through mentorship and collaboration. Such a network could also potentially contribute to the development of regional strategies for especially dangerous pathogens (EDP) surveillance and control. Enhanced surveillance efforts will facilitate development of cooperative disease control efforts in the region to further anticipate outbreaks and restrict transmission.

During the proposed study, Azerbaijani participants will be trained as needed in bacteriology, PCR detection, genetic characterization, and in biosafety and biosecurity by Georgian and US collaborators. Training will be conducted at the Lugar Center in NCDC and USAMRU-G laboratories. This project and the collaboration with Azerbaijani scientists will introduce the Lugar Center as a regional reference laboratory for *B. anthracis*.

A major goal of this project is to provide or expand sustainable skills and capacity in laboratory diagnostics and GIS for each AJ and GG partners. Toward this effort, this project will provide new or expanded capacity

in laboratory diagnostics for *Bacillus anthracis* to improve pathogen detection/disease diagnosis in each country, which can immediately improve anthrax testing. This will provide new or expanded capacity in molecular diagnostics, including PCR, to improve diagnostic efficiency and accuracy in each country. The capacity building proposed here will expand on the needed infrastructure and skills to maintain these techniques after the project is completed. The ecological modeling and GIS proposed will provide new or expanded geospatial analysis capacity and map making skills to better understand pathogen distributions and dissemination of modeling results to policy makers. Specifically, ecological niche model outputs are maps of the most likely habitats where the pathogen is likely to persist. These maps can be used to identify key areas for passive surveillance, such as notifying farmers and local veterinarians that anthrax is possible and ensuring that regional labs in these predicted areas have the reagents for culture or the operating procedure to submit samples to SVS or RAPS for diagnosis. Likewise, these maps can be used to direct vaccination campaigns into communities on both sides of the AJ/GG border to direct resources where control is most needed and most effective. All of these skills will be immediately applicable to other disease systems in each country, both human and veterinary. The ecological modeling techniques proposed in the study will be implemented with open source, free software, increasing the likelihood of future applications to other projects, as costs would be limited to computer hardware and personnel. Each AJ and GG have some commercial GIS software availability to maintain, but the proposed GIS will build on existing GIS lab capacity developed under previous DTRA CBR projects, limiting the need for infrastructure (beyond adequate computing power for desktop analyses).

Project Management

***Project Implementation*: Project management, reporting, and administration**				
Description of Deliverables		**Details**	**Responsible Party**	**Schedule**
(1)	Initial set up	Materials and equipment procurement	CH2M HILL	Y1Q1
	Setting up sample testing and sample planning	Project Sample Plan and training of project personnel; GIS mapping of sample test sites.	Project team	
(2)	Training on sampling handling	Soil sampling methods	GG and AJ Project teams	Y1Q2
(3)	Collecting environmental samples	Sample collection	NCDC, NFA, AJ teams	Y1Q2-Y1Q3
(4)	Training/mentoring of confirmatory tests	Assistance with implementing diagnostics. Will include follow-up assistance on an ongoing basis throughout project.	AEP, NCDC, WRAIR, AJ teams	Y1Q2-Q4
(5)	Training/mentoring of genotyping	Assistance with implementing genotyping. Will include follow-up assistance/mentoring on an ongoing basis throughout project.	AEP, NCDC, WRAIR, AJ teams	Y1Q2-Q4

Project Implementation: **Project management, reporting, and administration**				
Description of Deliverables		**Details**	**Responsible Party**	**Schedule**
(6)	Data analysis and interpretation; GIS training when needed	Provide baseline information on the project data, genotyping, and GIS	GG/AJ project teams and collaborators	Y1Q4
(7)	Collecting environmental samples	Soil collection	NCDC, NFA	Y2Q1-Y2Q3
(8)	Confirmatory tests, GIS, and genotyping	Ongoing project activities.	AEP, NCDC, WRAIR	Y2Q2-Q4
(9)	Data analysis and interpretation	Provide baseline information on the project data, genotyping, and GIS	NCDC, WRAIR/USAMRU-G	Y2Q4

This project focuses on study of anthrax foci and will be undertaken at the collaborator institutes. The Director of each institute will appoint a project sub-manager for the work to be performed at the institute. This work will be supported by an institute-specific budget to perform the tasks outlined in this project description. In addition, there will be an overall Project Manager at NCDC to serve as a point of contact for CBEP on the activities planned under this project. The main responsibility of the Project Manager is to ensure that all communications amongst the parties are supported and that data is effectively coordinated between the studies. The main duties of the Project Manager are as follows:

1. Project Reporting
   - Aggregate quarterly reports from participating institutes
   - Prepare a short executive summary of quarterly reports
   - Coordinate the preparation of results for presentation at DTRA meetings and international conferences
   - Facilitate publications in peer-reviewed journals

2. Scientific Leadership
   - Organize and lead quarterly/monthly project conference calls
   - Maintain communications with all international collaborators
   - Organize local meetings of the Georgian project participants to discuss the project progress
   - Participate in international conferences and meetings

Meeting Goals and Objectives of CBR Program

This proposal addresses all CBEP goals:

1. Utilize BSL-2 & BSL-3 laboratory capacity to achieve more advanced research objectives enabling discovery of the diversion or accidental release of biological materials.
2. Develop infectious disease baselines and identify new pathogen strains.
3. Establish a nationwide disease detection and surveillance system.

4. Long-term sustainment of the disease detection networks in Georgia and Azerbaijan.
5. Development of the Lugar Center as a regional reference laboratory.
6. Training of Georgian (LMA) and Azerbaijani collaborators on molecular characterization of an EDP.

BIOSAFETY AND BIOSECURITY OVERVIEW

All of the studies proposed in this application will adhere to the biosafety recommendations contained in the 5th edition of the Biosafety in Microbiological and Biomedical Laboratories (BMBL) Manual published jointly by the CDC and NIH (relevant text from the BMBL Manual is reproduced below for each pathogen).

Biosecurity

All samples will be kept in locked laboratories and locked refrigerators. Sample logbooks will be maintained and all samples and cultures will be kept under standard security measures as defined by CBEP.

Safety Issues

Safety at sample collection sites will be ensured by the use of standard PPE, including: Tyvek coveralls, boots (12 inches high), N95 respirators, safety goggles, disposable hats, and double gloves (inside pair taped to the sleeves of the coverall). Staff at the collection sites have been using PPE for many years, and are skilled in the safe handling of potentially infectious material.

Approximate Budget

Budget details are available in the project Form B.

Relevance to DOD Program Objectives

- Knowledge of regional pathogens: This study will increase the knowledge of the distribution of *B. anthracis* in under-studied geographic areas of natural and new foci in Georgia and Azerbaijan. It will also complement the existing *B. anthracis* characterization project between Georgia and Turkey (GG TAP-10) and help build a regional picture of *B. anthracis* diversity.

- Gainful employment of scientists: This project will provide gainful employment for scientists working with especially dangerous pathogens from both countries.

- Transparency and integration: This project will promote transparency and integration of Georgian/Azerbaijani scientists into the global science community through participation in international conferences and publication of scientific papers in international journals.

- Establish the Baseline of Pathogenic Organisms in the Environment: The enhanced surveillance program resulting from this project will generate new information on important EDPs which will be mapped and described in detail.

Relationship to other on-going, planned, and recently completed CBEP Projects

This study will serve as follow-on to the DTRA-funded CBR projects GG-18 and AJ-3, GG TAP-7, LMA/NFA "BA Foci in Georgia", and will be a concurrent, complementary study to the *B. anthracis* characterization project between Georgia and Turkey (GG TAP-10).

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COOPERATIVE BIOLOGICAL RESEARCH
Project Proposal
GG-19 – Form A/Science Plan

Version Date: 12 April 2013

Project Title

Epidemiology and Ecology of Tularemia in Georgia

Project Summary

The overall scientific goals of this study are to study the epidemiology of human and animal tularemia in Georgia. We will accomplish this through several specific objectives. First, we will examine the seroprevalence of tularemia among exposed (people living in geographic areas known to be natural foci for Tularemia) and healthy individuals; we will estimate risk factors for seropositivity. In parallel, we will also establish active surveillance for human tularemia clinical cases with the goal of increasing the efficiency and diagnostic capability to identify the disease; we will collect isolates from human cases for comparison to both current environmental isolates and historical isolates (currently in the NCDC collection). From an environmental prevalence emphasis, we will establish active surveillance for *F. tularensis* in the environment including small rodents and associated vectors and to identify the sources of outbreaks among humans. This effort includes linking environmental and animal cases with human cases. Additionally, in all strains isolated we will evaluate diagnostics methods for detecting *F. tularensis*, and, monitor patterns of antimicrobial resistance with these isolates. There will be a bacteriophage component to this project that will study isolated *Francisella tularensis* strains strain by genomic sequencing, proteomics analysis and phage discovery (expanding our efforts from our discovery of lytic Francisella bacteriophage). The result of this project will be a more accurate assessment of the base-line prevalence and geographic distribution of *F. tularensis* pathogens in humans and animals; and an improved recognition and detection of the disease in this region. Both goals will be achieved by providing better laboratory diagnostics, enhanced GIS data, and modern laboratory-based characterizations for *F. tularensis*.

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Detailed Project Information

Project Description (Introduction and Overview)

Background

Tularemia is a zoonotic infection caused by *Francisella tularensis* - a small, faintly staining, Gram-negative, non-motile, non-spore-forming, pleomorphic bacterium, typically appearing as short rods or coccoid forms[1]. *F. tularensis* is an aerobic bacterium and considered as a fastidious organism due to its requirement of Cysteine for enhanced growth. The geographical distribution of *F. tularensis* spans the entire Northern Hemisphere. At present, there are four recognized subspecies of *F. tularensis: tularensis, holarctica, mediaasiatica*, and *novicida*. Each subspecies is predominantly associated with a particular geographical distribution. *F. tularensis* subsp. *tularensis* is predominately found in North Amer ca, yet was recently recovered in central Europe. *F. tularensis* subsp. *holarctica* is found over much of the Northern Hemisphere, while *F. tularensis* subsp. *mediaasiatica* has only been isolated in Central Asian republics. *F. tularensis* subsp. *novicida* is rarely isolated and prior to 2003 appeared restricted to North America. *F. tularensis* is included among the top six agents showing potential for great adverse public health impact if used as a bioterrorism agent.

Georgia offers a unique opportunity to study the epidemiology of the *holarctica* subspecies as tularemia infections arising from this variant (type B) have been long established, further, there have been detailed investigations of widespread endemic foci in south and eastern Georgia. It is here that the current risk and potential for preventive measures is in need of assessment following the cessation of local vaccination and rodent control programs. Humans are accidental hosts; infection occurs following contact with infected animals or invertebrate vectors. After

incubation period of 2-10 days, patients usually develop fever, headache, malaise, and can be accompanied by ulcerative or popular skin lesion, lymphadenopathy, hepatosplenomegaly, pharyngitis, and etc[2]. Depending on the portal of entry of *Francisella* infection, six different clinical syndromes are identified[3]: Glandular tularemia, Ulceroglandular tularemia, Oropharyngeal tularemia, Oculoglandular tularemia, Pneumonia and influenza tularemia, and, Typhoid tularemia. Post-infectious syndromes with persistent neuropsychiatric disturbances and chronic fatigue syndrome have been described in patients who were untreated or received therapy during late phase of their disease.[4, 5, and 6]

Epidemiology of Tularemia

Tularemia outbreaks and epizootics occur sporadically in scattered but widespread regions in the Northern Hemisphere. While the geographic distribution of *F. tularensis* foci is reasonably documented, some local aspects of the epidemiology of tularemia remain unclear due to the difficulty in fully understanding the potential diversity of local reservoirs and modes of transmission of *F. tularensis* (Table 1). While there may be difficulty in knowing the risk factors that exist to identify individuals who may be infected, there is an extensive literature on the risk factors, vectors and reservoirs for the four epidemic types (I - IV) of tularemia, the common risk factors relate to outdoor activity in endemic areas, usually from tick and mosquito bites, handling infected hares or rodents, drinking contaminated water and aerosol exposure from moving rodent contaminated hay and laboratory accidents.

Table 1: Epidemic Characteristics of Tularemia

Origin of epidemic	Groups of the population exposed to the infection	Mode of infection	Predominant form of the disease and location of the buboes	Time of origin of the outbreak	Source of infection	The principle methods of prophylaxis and eradication of the epidemic
Type I Epidemic resulting from wounds of mucous membrane infection – contact epidemic						
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Rodent control work on [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Type II Epidemic in which the infection is transmitted by an arthropod vector (Vector-borne)						
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Type III Epidemic in which infection is contracted orally (water and food-borne epidemic)						
Contamination of water by the discharges in corpses of diseased rodents	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Contamination of foodstuffs by the discharges of diseased rodents	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Type IV Epidemic where infection is the result of inhalation of contaminated air (aspiration epidemic)						
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

F. tularensis transmission to man occurs in residents and travelers to these endemic areas in Georgia, where it would be expected to find cases following the bites of ticks, mosquitoes and rodents or from handling infected hares or skinning carcasses. Water-borne outbreaks have occurred in Georgia and elsewhere from drinking water from contaminated streams or wells especially at times of civil disruption and damage to supply systems and wells. Individual cases of pulmonary tularemia are documented in Georgia because of airborne infection after moving rodent-contaminated hay and when thrashing corn. Typhoid tularemia has been diagnosed during at least two waterborne outbreaks in Georgia. Additionally, the epidemiology of the disease can appear to have changed over time, necessitating continued study of the endemic foci in any particular country. This is due to two factors: under ascertainment of cases both through lack of clinical knowledge and access to diagnostic test facilities, and the fact that the clinical epidemiology of human infection appears complex since it relates to the route of transmission and a series of very different ecosystems that maintain the agent. Hence, the clinical presentation of the human disease is indicative of both the mode of transmission and often the source of infection. In Georgia, the literature and records describe predominately oropharyngeal tularemia acquired from drinking rodent contaminated water but local inquiry established that typhoid, pulmonary and influenza forms of the disease have also been diagnosed.

Geographic distribution

Tularemia outbreaks have been reported from many countries in the Northern Hemisphere, with particular prominence in Europe and Central Asia (Russia Federation, Kazakhstan, Turkmenistan, Turkey, Bulgaria, Rumania, Serbia, Sweden, Finland, Poland, Czechoslovakia, Hungary, Austria, Germany, Holland, Belgium, France, Portugal, Spain,), North America (USA, Canada) and Asia (Japan, China) [7-15]. Investigations of outbreaks and epizootics have identified a variety of animals and vectors responsible for transmission or maintaining the bacterium, depending on the region.

Molecular epidemiology studies have shed light on the geographic distribution of subspecies of *F. tularensis*. In North America, tularemia is primarily caused *by F. tularensis* subtype *tularensis* (type A), whereas subtype *holarctica* (type B) accounts for all known human cases in Europe and Asia and causes disease in North America[16-19]. Until the end of the 20th century, it was thought that type "A" occurred only in North America; however, it has been isolated in vectors (e.g., fleas and ticks) and rodents in Europe[20]. In Central Asia, *F. tularensis* subtype *mediaasiatica* has also been identified. While not associated with animal infection, *F. tularensis* subtype *novicida* has been identified as a cause of water-borne outbreaks in Europe (Spain), North American and a rare occurrence in Australia.[21]

Recent molecular epidemiology studies have shown the variable virulence of different genotypes. In general, type A is more the most virulent; however, this is solely due to strain A1b. A US study of genotypes has identified human infections with A1b to be the most virulent with the risk of infection estimated to be as high as 24%. Other genotypes have far less mortality risk (A1a (4%), A2 (0%), and type B (7%). No human cases of *mediaasiatica* have been identified.[22]

Incidence over time

Annual incidence rates of tularemia have limited value, as the disease typically occurs in outbreaks with relatively few sporadic cases being identified between outbreaks in endemic regions (the latter often due to ascertainment bias). Outbreaks may have hundreds of cases with no or few cases recognized in the years before and after resulting in highly unstable incidence rates over time. However some important incidence trends over time have occurred. Over the 20th century a dramatic drop in tularemia cases has occurred. The incidence peaked around World War II, reaching 100,000 annually in the former Soviet Union[23]. This high incidence was primary though to be due to exposure to food and water contaminated with rodent feces and carcasses. In the US, at its peak about 2,000 cases occurred just prior to World War II[24]. A large outbreak in Kosovo in 1999-2000 raised concern that *F. tularensis* may have been used as a biologic weapon.[25, 26]

The societal disruption associated with war was associated with the substantial incidence in the mid-20th century. The much lower current incidence is related to social order and the use of preventive behaviors to reduce exposure to infected arthropods (e.g., wearing long-pants), exposure to infected animals, water treatment and reduced rodent populations in food storage.

Modes of Transmission

Humans are infected by *F. tularensis* through noculation, ingestion, and inhalation. Sources of infection occur from bites from various terrestrial and aquatic mammals, arthropod vectors, and ingestion of contaminated food and water. Aerosolization of feces and carcasses has also been implicated in outbreaks. For example, an outbreak in Sweden was caused by inhalation of *F. tularensis* from hay contaminated by vole feces.[27] In Martha's Vineyard, an outbreak was thought to be a result of inhalation of *F. tularensis* caused by a lawnmower shedding an infected rabbit carcass.[28] Inhalation is of particular concern given the more severe symptoms associated with it. The bacterium can remain viable for weeks in water, soil, and carcasses providing an opportunity for sufficient exposure to result in human infection.

Mammals are thought to be important in the environmental spread of *F. tularensis;* however, they are not thought to be a natural reservoir for the bacterium. Mammals transmit the bacterium to humans directly through bites and scratches as well as through arthropod vectors and contamination of water and food sources. The list of mammals with documented *F. tularensis* infections is over 200, however a small group of mammals are thought to be particularly important in the transmission to humans and sustainability of the organism in the environment (several types of rodents (e.g., voles, mice), hares, rabbits, ground squirrels, beavers and muskrats).[29]

Understanding the rodent population is critical in understanding the potential for human outbreaks. The size of the rodent population needs to be considered. Multiple human outbreaks have occurred following the increased density of the rodent population in a particular region. In addition, human outbreaks of *F. tularensis* have followed from outbreaks in rodents.

Several arthropods have been implicated in the transmission of tularemia. Depending on the region, mosquitoes (*Aedes, Culex, and Anopheles*), horse flies (*Tabanidae*), and ticks (*Ixodidae* and others) are established vectors. While arthropod vectors commonly are functional vectors of *F. tularensis* transmission, their role full in disease sustainability or potential to act as disease reservoirs is not clear. Previously, Olsufjev and Rudnev (9) defined major "eco-types" of disease foci that perpetuate *F. tularensis* respective to landscape, reservoir, vector and season (Table 3).

Risk factors for infection

Infection occurs among men and women of all ages. The incidence for men is over twice that for women; this is thought to be a result of outdoor activities that put them at higher risk. Hunters, farmers, landscapers and others working or recreating outdoors are at highest risk for infection. Another potential occupational risk factor is laboratory work: however, laboratory protocols have prevented infection in recent decades.[32] Table 1 lists the major factors describing epidemiological and ecological factors involved in tularemia emergence, transmission, and maintenance.

***F. tularensis* as a potential bioterrorism agent**

F. tularensis is a Category A select agent that can cause severe and fatal disease in humans if an aerosol containing as few as 10-100 colony forming units (CFU) of the bacterium is inhaled.[33] Several countries have weaponized *F. tularensis* for use as a possible biological weapon. Thus, *F. tularensis* is now considered a potential bioterrorism agent.

Tularemia in Georgia

Routine monitoring and investigation of tularemia in Georgia began in the mid-1940s and the first identified case of tularemia in South Caucasus was registered in Georgia in 1946. Since then two main regions with naturally occurring foci of tularemia have been identified: one in the

mountainous Meskhet-Javakheti region[34] and another in the Kartl-Kakheti Valley[35]. The Meskhet-Javakheti focus covers the Ninotsminda, Akhalkalaki, Akhaltsikhe and Aspindza regions. The Kartl-Kakheti focus covers central and eastern part of Georgia. Epizootics of tularemia in the Meskhet-Javakheti focus were established dur ng 1963, 1977, 1979 and 1980, 1984 and they were identified for the first time in the Kartl-Kakheti focus during 1956. The largest outbreak of tularemia with more than 300 cases was registered in the Ninotsminda region (village Gandza) in 1984 caused by drinking contaminated water. The last documented outbreak of tularemia occurred in 2006[36]. The clinical presentations during these outbreaks involved mostly glandular and oropharyngeal forms. In several outbreaks, water was implicated as a source. Factors mediating the emergence of tularemia epidemics are outlined in Table 1. Historically cultures of *F. tularensis* were isolated from *Microtus arvalis* (common vole) and other rodents as well as from its fleas and ticks. Currently the pathogen repository at NCDC contains more than 90 isolates of *F. tularensis* that were isolated in Georgia during last 60 years. All of the Georgian isolates of *F. tularensis* that have been sub-speciated and belong to subtype *holarctica*.

During 2000-2008, 40 new cultures of *F. tularensis* were isolated by NCDC from natural focus areas in Georgia: 24 isolates from *D. marginatus* ticks, 1 - *H. sulcata* tick, 6 - *H. otophila* tick, 2 – *gamasid* mites, 3 - rodents, 4 – drinking water[37]. These observations suggest that tularemia is common in Georgia, and they emphasize the need to strengthen surveillance activities.
In the past preventive measures in Georgia included massive immunization of the population in natural foci, mainly this involved only the Meskhet-Javakheti region. The immunizations were conducted in this region every five years from 1956 until 1985 and involved 96,000 people in 1970. Since then, the numbers of infected individuals have decreased dramatically; however, no vaccinations were performed after 1985.

Table 2: Recent Isolation of *F. tularensis* in Georgia

Years	Strain	Source	Location	Isolation method
2009	*F. tularensis*	*D. marginatus*	Kaspi rayon	Culturing
	F. tularensis	*D. marginatus*	Kaspi rayon	Culturing
	F. tularensis	*D. marginatus*	Kaspi rayon	Culturing
2010	*F. tularensis*	*D. marginatus*	Kaspi rayon	Culturing
	F. tularensis	*D. marginatus*	Kaspi rayon	Culturing
	F. tularensis	*D. marginatus*	Kaspi rayon	Culturing
2011	*F. tularensis*	*D. marginatus*	Kaspi rayon	Culturing
	F. tularensis	*Hm. otophila*	Gori rayon	Culturing
	F. tularensis	*Hm. otophila*	Gori rayon	Culturing
	F. tularensis	*Hm. otophila*	Gori rayon	Culturing
	F. tularensis	*Hm. otophila*	Gori rayon	Culturing

Cooperative Biological Research, GG-18 highlights. The CBR project, GG-18 focused on an overall base-line study of *F. tularensis* in ticks and ectoparasites from 2008-2012. Molecular detection of *F. tularensis* target genes was performed in field samples with ectoparasite and rodent internals pool samples. In total, 271 ectoparasite pool samples were investigated on presence of *F. tularensis* genetic markers. Positive results were revealed in eight and undetermined in three DNA samples. Out of 138 rodent pool samples only eight DNA gave undetermined amplification. In total, 13 out of 18 isolate DNA samples were positive on both targets. From 11 samples (swabs and whole blood samples), no positive result was obtained.
In addition, Indel typing was completed. This allows for the characterization of isolates and relatedness grouping. Indel markers Ftind33, Ftind48 showed deletion for Georgian strains and LVS. Markers Ftind49, Ftind38, Ftind45, Ftind46, Ftind47, Ftind18, Ftind44, and Ftind50 revealed presence of insertion in Georgian isolates. Georgian strains together with LVS were typed as *F. tularensis* type B, *holarctica* and were placed in non-Japonica branch, East European

subclade – B.19 by Svensson et al. and B.12 by Vogler et al.2009 (Vogler AJ, Birdsell D, Price LB, Bowers JR, Beckstrom-Sternberg SM, et al. (2009) Phylogeography of *Francisella tularensis*: Global Expansion of a Highly Fit Clone. J Bacteriol). According to Svensson et.al. Deletions for LVS should be appeared in Ftind50 (LVS subclade), Ftind33 (East European subclade), Ftind48 (*F. tularensis* type B, non-Japonica branch) and Ftind47 (*F. tularensis* type B, *holarctica*). In our data, Ftind50 and Ftind47 revealed presence of insertions in Georgian isolates and LVS strains that was not in accordance with article data. It worth to be mentioned that Ftind47 marker had higher cross point (CP) and melt temperature (TM) compared to all other assays; it could be result of mutation in the region of interest. Ftind33 showed deletion in Georgian strains and LVS that could be considered as a logic result, but deletion appeared in SchuS4 strain DNA as well, that was used as a positive control in this test. In summary, the GG-18 project only looked at a diverse area of Georgia and was able to genotype only a few strains from the environment (non-human samples). Georgian strains along with the LVS strain, were typed as *F. tularensis* type B, *holarctica,* non-Japonica branch. In addition, the GG-18 project evaluated MLVA-25 and SNP typing on nine strains that were isolated from ectoparasite (Ixodae ticks) pools in Shida Kartli region. Isolated strains along with archival, LVS and SchuS4 reference DNA samples were typed using B.Br.012, B.Br.013 and 6 new SNP markers specific for *F. tularensis* spread in Georgia (B.Br.27-B.Br.32). These SNPs were discovered by whole genome comparisons and designed as canonical assays at Northern Arizona University (NAU) in previous studies (Phylogeography of *Francisella tularensis* subspecies holarctica from the country of Georgia, G, Chanturia, D. N Birdsell, M. Kekelidze, E. Zhgenti, G. Babuadze, N. Tsertsvadze, S. Tsanava, P. Imnadze, S. M Beckstrom-Sternberg, J. S Beckstrom-Sternberg, M. D Champion, S. Sinari, M. Gyuranecz, J. Farlow, A. H Pettus, E. L Kaufman, J. D Busch, T. Pearson, J. T Foster, A. J Vogler, D. M Wagner, P. Keim, BMC Microbiology 2011, 11:139).

The overall results of the GG-18 project, in relation to F. tularensis conclude that F. tularensis is in circulation of the same SNP group during last five years on a wide territory of the Shida Kartli region (as determined by isolation from only ectoparasites. This may reflect that this area could contain more active tularemia foci and emphasizes the need for a human seroprevalence study and preventive arrangements in the region, as proposed in this GG-19 project proposal.

Scientific Goals

This project is designed to provide the initial research and background information for the development of a comprehensive epidemiological surveillance project in Georgia and provide a base-line understanding of the geographic distribution of *F. tularensis* diseases in certain regions of this country. The research proposed will focus on at least two specific research priorities cited among the specific research priorities described in the CBEP Research Agenda (July 2011). In addition, we will perform basic research with all of the institutes with *F. tularensis*, which includes genotypic variations, bacteriophage research, and proteomic analysis of *F. tularensis* strains.

Aim 1: To study the seroprevalence of tularemia among exposed (people living in geographic areas known to be natural foci for tularemia) and not exposed healthy individuals and estimate risk factors for seropositivity.

Aim 2: To establish active surveillance for human tularemia clinical cases with the goal of increasing identification of the disease and collecting isolates from human cases for comparison to current environmental isolates and historical isolates.

Aim 3: To establish active surveillance for tularemia in the environment including small rodents and associated vectors and to identify the sources of tularemia outbreaks among humans. This effort includes inking environmental and animal cases with human cases.

Aim 4: To implement and evaluate diagnostic methods for tularemia and monitor patterns of antimicrobial resistance

Aim 5: To study isolated *Francisella tularensis* strains using DNA sequencing, proteomics analysis, and phage subtyping.

Technical Approach and Methodology

Aim 1: To study seroprevalence of tularemia among occupationally exposed and not exposed healthy individuals and estimate risk factors for seropositivity.

Rationale: The GG-18 project conclusions highly suggest that a human sero-prevalence study be conducted in Georgia in the *F. tularensis* active foci (as determined from ectoparasites). This study is incredibly important to determine area hot spots that may be attributed to human diseases caused by *F. tularensis*.

Approach: To address this hypothesis, a cross-sectional study design will be utilized for this aim. Study participants will be recruited from high-risk areas (hot spots) and other regions of Georgia for comparison. Study participants will be asked to complete an interview to identify risk factors for potential infection and provide a serum sample for antibody testing for *F. tularensis*. Up to 1000 patients will be screened in this Serosurvey over the three-year period.

Study Details:

- *High-risk areas:* High-risk areas identified with historical data and data obtained from the GG 18 project include Meskhet-Javakheti (Ninotsminda, Akhalkalaki, and Akhaltsikhe and Aspindza regions) and Kartl-Kakheti Valley (Eastern Georgia). Several villages historically known as hot spots for tularemia in these high prevalence areas will be the focus of data collection. Households in these villages will be randomly selected, and an adult individual in each selected household will be randomly selected for study participation. Eligible adults will meet the following criteria: 18 years and older, speak Georgian or Russian, lived in the region for at least 3 years consecutively, capable of providing informed consent, and willing to participate. Up to 500 patients will be enrolled in this study over the three-year period.
- *Low risk areas:* A comparison group of individuals with relatively low risk of infection and good health will be recruited. Individuals from low risk areas will be recruited from blood donors (State Blood Safety Program). Individuals will be selected from consecutive blood donors in these regions. Two further requirements need to be met: the number from each region will be pre-fixed, and frequency matching on age (in 10-year age groups) and gender will be required so that the distribution of high risk and low risk participants will be similar on age and gender. Up to 500 patients will be enrolled in this study over the three-year period.
- *Data collection:* Participants will be asked to complete an interviewer-administered questionnaire of risk factors for tularemia and provide a serum sample (high-risk group).
- *Blood samples:* Five ml venous blood will be drawn from consenting individuals recruited in high-risk areas and shipped to the laboratory of NCDC. All laboratory operational standards and biosafety requirements will be observed for sample shipment. NCDC is responsible for administering the State Blood Safety Program and within the framework blood donor samples are routinely sent to NCDC laboratory for ELISA testing on blood borne infections. De-identified samples will be used for tularemia serologic assays. Only an arbitrary linking code will be utilized to connect survey responses with blood test results. *F. tularensis* antibody tests in serum using microagglutination test (MAT) will be performed. The details of the laboratory test are discussed below. Any samples positive for *F. tularensis* antibodies will also be tested for *Brucella* antibodies to verify specificity of the test results for *F. tularensis* antibodies.
- *Questionnaire:* A standardized interviewer-administered questionnaire will be administered to all study participants by a trained interviewer. The questions will include demographic characteristics (e.g., age, gender, geographic region, occupation), exposure

to risk factors for tularemia (e.g., outdoor activities, hunting), history of vaccination against tularemia in the past, prevention measures (e.g., use of DEET), recent illness, and utilization of medical care. For individuals who have been diagnosed with tularemia, clinical symptoms will be ascertained and documented.

- *Data Management and Statistical Analyses*: Each individual will be assigned a study identification number. Once data is linked, all identifiers will be dropped and only the study ID will be utilized for linking the questionnaire responses with the laboratory test results. Data will be entered into SPSS and checked for quality and inconsistencies. The proportion of seropositive results (*Francisella tularensis*) will be computed separately for high risk and low risk individuals. Bivariate analyses will be conducted to compute the association between the seropositivity and other potential risk factors including age, gender, geographic region and type(s) of exposure. Multivariate analyses using logistic regression (outcome prevalence expected to be < 10%) will be conducted to identify independent predictors of seropositivity.

Aim 2: To establish active surveillance for human tularemia clinical cases with the goal of increasing the identification of the disease and collecting isolates from human cases for comparison to current environmental isolates and historical isolates.

Rationale: There has not been an active surveillance for human tularemia cases in Georgia in the past and all data has been obtained from ectoparasites to date. We suspect that several human clinical cases go undiagnosed and case studies are not accurate and need to be improved. We also hypothesize that *F. tularensis* case definitions can be improved to better diagnose this disease in humans.

Approach: To address this hypothesis, we plan to establish active surveillance for tularemia case finding in endemic areas in Georgia, such as Meskhet-Javakheti (Ninotsminda, Akhalkalaki, Akhaltsikhe and Aspindza regions) and Kartl-Kakheti Valley. The hospitals and primary care facilities in the tularemia hot spot regions will be involved. Regional referral hospitals and tertiary care hospitals will also be included in the study to recruit the patients potentially referred from above listed areas. The patients who will present to primary care centers or be admitted to the selected hospitals and meet the case definition for Tularemia (case definitions are described below) will be asked to participate in the study. Informed consent will be obtained prior to enrollment. Up to 1,000 patients will be enrolled in this study over the three-year period.

The following working case definitions will be used for different clinical forms of tularemia (Ulceroglandular, Glandular, Oculoglandular, Oropharyngeal, and Pneumonic):

a) *Ulceroglandular*,
Patient presenting with following clinical presentations:
- Fever > 38 C (oral temperature)
- Regional lymphadenitis (bubo)
- Skin lesion, which can present as ulcer, vesicular/pustule or popular lesions.

b) *Glandular*
Patient presenting with the following clinical presentations:
- Fever > 38 C (oral temperature)
- Regional lymphadenitis (bubo)

c) *Oculoglandular*
Patient presenting with following clinical presentations:
- Fever > 38 C (oral temperature)
- Severe unilateral conjunctivitis.
- Preauricular lymphadenitis

d) *Oropharyngeal*

Patient presenting with following clinical presentations:

- Fever > 38 C (oral temperature)
- Ulcerative-exudative stomatitis and pharyngitis, with or without tonsillar involvement
- Neck lymphadenitis

e) *Pulmonary and influenza*

Patient presenting with following clinical presentations:

- Fever > 38 C (oral temperature)
- Severe pneumonia
- Presentation from April to October of each year

The following set of laboratory investigations wil be performed for each specific clinical syndrome of Tularemia. These will include the tests to identify *F. tularensis* and additional tests will be performed to identify other pathogens, which can present with similar clinical syndrome (for the detailed description of methods refers to Laboratory Investigations chapter below):

a) Ulceroglandular
   1. Bacterial cultures of the blood, lymph node aspirate and skin lesion swabs.
   2. MAT
   3. PCR of lymph node aspirates and skin lesion swabs

b) Glandular
   1. Bacterial cultures of the blood, lymph node aspirate
   2. MAT
   3. PCR of lymph node aspirate

c) Oculoglandular
   1. Bacterial cultures of the blood, lymph node aspirate, ocular lesion swab
   2. MAT
   3. PCR of lymph node aspirate and lesion swab

d) Oropharyngeal
   1. Bacterial cultures of the blood, lymph node aspirate, oral lesion swab
   2. MAT
   3. PCR of lymph node aspirate and lesion swab

e) Pulmonary
   1. Bacterial cultures of the blood and respiratory secretions (sputum, tracheal aspirate, bronchoalveolar lavage as appropriate) or pleural fluid if available.
   2. MAT
   3. PCR of sputum, respiratory secretions, or pleural fluid, as appropriate.

Based on clinical presentations and laboratory investigations, we will define presumptive and confirmed cases according to WHO Guidelines on Tularemia: [38]

- **Presumptive cases** - suggestive clinical symptoms and a clinical sample that tests positive for tularemia by DNA detection or a single positive serum.

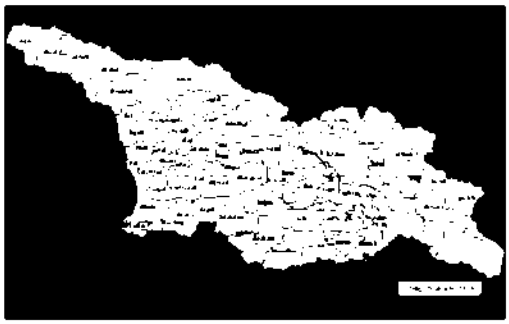
- **Confirmed cases** - the recovery of an isolate and identification of the culture as *F. tularensis,* or fourfold difference in titer of paired serum specimens.

All presumptive and confirmed cases will be documented in Electronic Disease Surveillance System (EIDSS) and the GIS database. Both presumptive and confirmed cases will be used to determine the incidence of tularemia.

Aim 3: To establish active surveillance for tularemia in the environment including small rodents and associated vectors and to identify the sources of tularemia outbreaks among humans and linking environmental and animal cases with human cases.

Rationale: We will define the types of endemic foci recorded in Georgia based on a historical analysis of strain database information and to select new representative areas that include the known three types of foci: steppe, meadow field and forest types (Table 3). The data that make up this hypothesis comes from the GG-18 project, which provided a broad base of information on ectoparasite data. However, the GG-18 data did reveal that additional environmental samples would need to be conducted, especially in endemic foci for this disease, and, environmental collection needs to coincide with human clinical studies. To this end, we will conduct environmental surveillance for *F. tularensis* in areas where historical outbreaks have been recorded and extensive field investigation undertaken of the environment (Figure 1).

Figure 1: Historical map showing the prevalence of Tularemia (highlighted in blue) in the Republic of Georgia.



Approach: Tick surveillance and rodent surveillance will be conducted to determine the current prevalence of *F. tularensis* in vectors and reservoirs to determine their impact on human disease risk. A historical review of isolation rates appertaining to the environmental sources of the NCDC database of strains will be undertaken to optimize recovery of *F. tularensis* from rodents, ticks, fleas, and related materials.

Table 3: Classification of tularemia foci in former USSR (from Olsufjev & Rudnev 1960)

Kind of foci	Main reservoir	Tick involved	Season of outbreaks
Meadow-field type	Microtus arvalis	Dermacentor pictus	Winter
Steppe (ravine) type	Voles, mice, hamsters, hares, etc	Main Dermacentor marginatus	Autumn and winter
Forest type	Red vole, Clethrionomys glareolus, forest mice, hares	Ixodes ricinus, I. trianguliceps	Tick season
Floodland-swamp type	Water rats	Dermacentor, Rhipicephalus, Ixodes sp	Season of water-rat hunting
Foothill type	Water rats (voles, etc)	Ixodes verrucosus	Summer
'Tungai' type	Hares, gerbils, mice and insectivores	Rhipicephalus pumilio	Season of hare hunting

There have been 13-recorded outbreaks of tularemia in five foci in Georgia. The largest outbreaks have been recorded from the central and south-central regions of Georgia: Meskhet-Javakheti (Ninotsminda, Akhalkalaki, Akhaltskhe, and Aspindza regions) and Shida-Kartli regions. These outbreaks included suspected water-borne and rodent-borne transmission. An additional historical outbreak occurred in the village of Zhemo Kedi, Kakheti region, in eastern

Georgia and involved children and the threshing of wheat. Table 4 (below) summarizes the temporal distribution of 442 isolates of *F. tularensis* in Georgia and the source data from rodents, arthropod, and other samples.

Table 4: Temporal analysis summary

Year	Many	Mouse	Rabbit	Asym	Shrew	Mole	Mouse	other	Dermacentor	Tick	Mosquito	Gamma	other	Cervus	Bird	water	wheat	Total
1950	1	1							1	1		1		2				7
1960	16	2		1			2	2				1	1	5				29
1970	57		3	4	3	1		2	5	7	1	7	1	19	1			120
1980	50	7		2	4	2	1	1	32	6	10	3	3	11		2		137
1990	21					3			47	12	4	2		13			2	102
2000	3			1					30		2	1	1	1		4		50
Total:	148	10	3	8	7	6	3	5	115	29	28	18	6	51	1	6	2	442

The NCDC database of historical isolates of *F. tularensis holartica* will be subject to a more detailed review of isolation rates from the field study records to determine the effective denominator that may indicate carriage and persistence in the approximately 60 different locations sampled since the 1950s. This database will also be used to map using GIS the approximate distributions of the 440 source related isolates

In conjunction with (b)(6) Vector Surveillance group at USAMRIID (and using the IACUC approved protocols through USAMRIID). the team, approximately four times per year, will conduct field expeditions in the *Francisella tularensis* focus areas. Field trips will last approximately 15 days per trip. Ticks will be collected off livestock (reference of use in Georgia) or by using tick drags and standard classification/taxonomy will be used to identify the ticks to species, followed by pooling according to species, location, and collection date. DNA from the tick pools will be isolated and real-time PCR analysis will be performed to screen the pools for the presence of *F. tularensis* (see Laboratory investigations, section g). Rodents will be collected using Sherman live-catch traps set in fields, in, and around houses. Collected rodents will be identified to species, checked for ectoparasites, and then processed to obtain blood as well as spleen and kidney tissues. Blood, tissue, and ectoparasite samples will be tested by real-time PCR *for F. tularensis* (see Laboratory Investigation). In total, it is estimated that 1,000 samples (ticks, tissue, etc) will be collected and processed per expedition, with a total estimate of about 5,000 specimens per year during the three-year period.

For all presumptive and confirmed cases, an epidemiological investigation will be carried out. The patient will be interviewed and case investigation report form completed. Information collected on the case investigation form will include general patient information (e.g. age, sex, residence, etc) as well as collect information about the patient's activities (e.g. hunting), potential exposures (e.g. tick or mosquito bite, contact with rodents, etc), and location of potential exposure. Tick surveillance and rodent surveillance will be conducted around a patient's residence and farm (or work site), if applicable. For all presumptive and confirmed cases, an epidemiological investigation will be conducted to determine if a link exists between the human case(s) and those pathogens found in the vectors and reservoirs. Methods from Task 1 will be applied here. Genetic analysis will be used to link human and environmental isolates, see Aim 6.

Geographical Information System (GIS) analysis will be used to determine a risk assessment for exposure to environmental and animal sources of *F. tularensis*. This will be accomplished by using GIS software systems, specifically ESRI ARC Map/Editor. Global Positioning System (GPS) handheld units will be used to record the coordinates of the collection sites, number and species of arthropods collected, and collection site habitat data. The final output of the GIS analysis will be risk assessment maps. The risk assessment maps will be composed of multiple biotic and a-biotic layers, to include: current vector distributions broken down by species determined from the active surveillance, disease burden associated with the vectors collected and tested during the active surveillance, road and waterways, vegetation, elevation, and any historical data pertaining to Tularemia (Figure 1) and current data from imagery and weather services

Aim 4: To implement and evaluate the diagnostic methods for tularemia and to monitor antimicrobial resistance.

Rationale: Historically, culturing *F. tularensis* been difficult as it is a fastidious, slow-growing organism. Blood cultures are often negative, most likely because the initial infection has not progressed to the blood stream. The collection of multiple sample types (e.g. swab of ulcer, lymph node aspirate, and blood) from a patient will increase the likelihood of isolate recovery. In this protocol, we hypothesize that by taking a number of additional steps will be taken to increase the likelihood of culture recovery on agar media. These include collection and transport methods to provide for maintenance of viable organisms, culture initiation within 24 hours of the sample being taken from clinical cases, storage of environmental samples at -80°C to preserve viable organisms, increased incubation times of primary cultures (7-10 days) and the use of antibiotic media to allow for isolation of *F. tularensis* in the presence of other organisms. Typically, mice have been used to isolate *F. tula*rensis from contaminated samples as they are highly susceptible to *F. tularensis* and act as a filter to amplify this organism in the presence of other non-pathogenic organisms. The use of antibiotic media to isolate *F. tularensis* from contaminated samples alleviates the dependence on mice for the isolation of *F. tularensis*. Through this rationale, we proposed to work with our collaborators and our expertise in bacteriology to isolate *F. tularensis* from human clinical samples for the first time without the use of mice for propagation. Antimicrobial resistance will be checked and the cultures immediately destroyed.

Approach: The following approach will be taken to complete these study objectives in Aim 4:

Patient recruitment and evaluation: All tularemia-suspected patients recruited in the study will be tested by all appropriate laboratory methods as described in this document. The gold standard for laboratory confirmation will be either a four-fold rise in antibody titers using paired samples or isolation of *Francisella tularensis* in cultures. Sensitivity and specificity of other diagnostic tests including PCR will be calculated and compared to the gold standard. While the primary purpose of testing for a range of potential co-infections is related to research ethics, these studies will provide knowledge about the causes of infections among those negative for *F. tularensis.* Additionally, the presence of co-infections will provide insight into this potential risk factor for tularemia infection.

Sample collection and transportation: Clinical samples will be collected and shipped to the laboratories of NCDC observing all laboratory operational standards and biosafety requirements for sample collection and shipment and using new methods published by the Booz Allen Hamilton Biosafety and Biosecurity for Sample transport. The specimens will be delivered to the laboratory within 24 h under the standard conditions; environmental samples will be kept at -80C in the field and will be delivered to the laboratory periodically (based on the project schedule) under the standard conditions. Transport temperature conditions to the laboratory will be those recommended by the WHO Guidelines in order to ensure organisms remain viable during this process. All samples will be labeled clearly with all required information (name, ID, source, site, date etc.)[39]

Specimens will be considered acceptable for the various forms of human Tularemia syndromes as specified:

- Whole blood - for all clinical forms of illnesses. Two samples of venous blood will be obtained, preferably from separate sites and 30-60 minutes apart, comprising in total 20-30 ml, into bottles of a conventional aerobic blood culture system.
- Serum - for all clinical forms of illnesses. A first specimen will be collected as early in the course of infection as possible, followed by a second specimen taken in the convalescent period (at least 14 days later).
- Respiratory secretions/pleural fluid – for pneumonic form of illness. Bronchial/tracheal washes or aspirates, sputum, transthoraxic lung aspirates, or pleural fluid. Specimens will be

collected in screw-capped containers and transported to the laboratory as quickly as possible.

- Swabs – of visible lesions or affected areas will be collected for Ulceroglandular, Oculoglandular and Oropharyngeal forms of illness. For culture, a rayon-tipped plastic applicator and a tube-containing agar with charcoal will be used.
- Aspirates – from lymph nodes or lesions for Ulceroglandular, glandular, Oculoglandular and Oropharyngeal forms of illnesses will be collected with sterile needle and syringe and transferred aseptically into a sterile tube.

Specimens acceptable for the animal and environmental samples:

- Mammals – serum, aspirate, autopsy materials;
- Arthropods – ticks, fleas, mosquitoes;
- Environmental samples – soil, water, and rodent feces will only be collected in the context of an epidemiological investigation that indicates these as the potential exposure sources.

<u>Bacteriology:</u> Samples will be screened bacteriologically, by plating them on Cysteine heart agar enriched with chocolatized red blood cells (CHAB) which is a practical medium for culture of *F. tularensis* as the organism displays characteristic morphology and grows well on this media; Plating on Cysteine enriched Chocolate agar (CA) or Sheep Blood Agar (SBA) will be used to identify any possible existing co-infection. CHAB medium supplemented with antibiotics (CHAB-A) has been shown to significantly improve (81%) recovery rates from tissue sources contaminated or overgrown by other flora.[40] In specimens where the presence of mixed flora is likely, including respiratory and Oropharyngeal samples CHAB-A will be used For any primary samples were other bacterial growth is observed when the sample is cultured on non antibiotic CHAB media, the samples will be re-plated on antibiotic containing CHAB media for isolation of *F. tularensis*.

For blood culture, the automatic blood culture system will be used. This will allow for the amplification of small numbers of *F. tularensis* organisms in blood samples prior to culturing on media. Aliquots from positive blood culture bottles will be incubated on CHAB. Blood culture bottles will be maintained for 7-10 days.

All inoculated culture plates will be incubated at 35-37C for 7-10 days at 5% CO_2 and checked daily for growth. A portion of the clinical samples will be stored for any future testing (including additional culture work) that might be required. Bacterial isolates will be identified as *F. tularensis* using standard criteria, including morphology and biochemical tests, as recommended by the CDC.[41]

Differentiation of species and subspecies of *F. tularensis* will be based on growth characteristics, biochemical bio typing (Table 5) (Cysteine requirement: carbohydrate fermentation: maltose, sucrose, D-glucose, glycerol; citrulline ureidase production; oxidase production; H_2S production on TSI);[42] and molecular biotyping.

Table 5: Discriminating characteristics of *Francisella* species and subspecies

Characteristics	*F. tularensis* subspecies				*F. philomiragia*
	tularensis	*holarctica*	*mediaasiatica*	*novicida*	
Cysteine requirement	+	+	+	-	-
Maltose fermentation	+	+	-	+	+
Sucrose fermentation	-	-	-	+	+
D-glucose fermentation	+	+	-	+	+
Glycerol fermentation	+	-	+	+	-
Citrulline ureidase production	+	-	+	+	nd
Oxidase production	-	-	-	-	+
H_2S production	+	NA	NA	NA	NA

Note: "+" positive";-"negative; "nt" not tested; "NA" not available.

Antigen detection: Antigen detection is useful for either direct identification of *F. tularensis* in clinical/environmental specimens (direct fluorescent antibody (DFA)) or for confirmatory identification of isolates recovered in culture (slide agglutination or DFA).

- DFA staining using FITC-labeled rabbit antibody directed against whole killed *F. tularensis* cells (rapid assay for identification of *F. tularensis* in primary specimens or for confirmation of recovered isolates) will be used.[43]
- Slide agglutination will be used for the rapid conformation of recovered isolates. Slide agglutination assay is based on the interaction between high-titer anti-*F. tularensis* antibody and *F. tularensis*-specific antigens. A positive slide agglutination (clumping of cells) test is confirmatory for *F. tularensis*.

Serology: Serology is commonly used for confirmation of tularemia. Antibody responses against *F. tularensis* are generally detectable in patients 10-20 day's post-infection.[44]

- Microagglutination, the standard serological test for determining the presence of antibody to *F. tularensis*,[45] will be used in paired human serum specimens and/or in mammalian serum samples for conforming exposure (infection and vaccination) and for Sero-prevalence studies.
- Enzyme-linked immunosorbent assay (ELISA). We will be using ELISA methods as described elsewhere by N. Chitadze et al.[45] Once the ELISA protocols are developed, they will be submitted to CTR for BS&S review.

Antimicrobial susceptibility: Antibiotic susceptibility of the recovered isolate to the following antibiotic agents using CLSI breakpoints will be performed using the E-test method[47]: Streptomycin, Gentamycin, Tetracycline, Doxycycline, Chlorampenicol, Rifampicin, Ciprofloxacin, Levofloxacin, and Moxifloxacin.

Aim 5: To study isolated *Francisella tularensis* strains using DNA sequencing, proteomic analysis, and phage subtyping.

Rationale: The GG-18 CBR project (2008-2011) made great strides in characterizing a limited number of F. tularensis strains that were isolated from ectoparasites. The GG-18 project data suggested that there are several more questions that need to be answered about *F. tularensis*. The first is that the molecular characterization of F. tularensis strains is incomplete and there is an incomplete picture not only from human isolates (never been completed), but that there is a tremendous genetic diversity in *F. tularensis* strains from the limited number tested. This proposal will look to complete the genotyping picture in Georgia.

In addition, proteomic analysis of *F. tularensis* isolates under the GG-18 project indicates differences between selected isolates of *F. tularensis* on a proteome level. This knowledge is very

important, since differences on a genomic level quite often are "silent" and not expressed. It has been shown by decades of research with other pathogens that most of the in-consistently differentially expressed proteins are virulent factors and their knowledge of them could pave ways for better diagnostics and identification schemes. The same is true for the potential application of this potential data for the protection of civilian and military personnel. Under GG-18, the project team was able to increase the capabilities of the Georgian Institutes with the first real, full-scale (from identification of the proteins on 2-D gels) proteomic research in Georgia. We anticipate that continued research in this area will reveal a list of differentially expressed proteins, which will lead to future studies and projects and provide a better understanding of *F. tularensis* physiology and virulence.
Finally, until the GG-18 project, nowhere in the world has a bacteriophage been infective to and react to F. tularensis. The Eliava institute, over three years under GG-18 research, has isolated several key non-stable and reactive *F. tularensis* bacteriophage. This is hallmark and cutting-edge research, to, for the first time, isolate, and characterize stable *F. tularensis* bacteriophage. It is our hypothesis that this approach will yield such results.

Approach: We will take a multi-fold approach to address the hypotheses in this aim:

Molecular diagnostic of Francisella tularensis in clinical / environmental samples: For DNA extractions, some samples (sputum, bronchial and tracheal washings) will be specifically pre-treated with N-acetyl-L-Cysteine or other specialized reagents to liquefy the samples; and some tissue samples will be incubated in Qiagen tissue lyses buffer (ATL) at 56°C until fully lysed, followed by DNA purification using Qiagen DNA Mini Kit. DNA extraction from ground tick and rodent samples will be performed using Qiagen DNA Blood and Tissue Mini Kit.

Real Time PCR analysis will be accomplished using Idaho Technology Kits: *F. tularensis* Target 1 and Target 2; and will be performed for all clinical samples, while environmental samples, such as tick pools and rodent tissues will be screened using the Real Time PCR multi-target primer set ISFtu2, tul4, and igIC[48].To avoid cross reactivity with ectoparasites endosymbionts, positive tick pool samples will be amplified using a 16S ribosomal RNA gene primer set, purified, and then sequenced and compared to other bacterial genomes in the NCBI database by BLAST analysis.[49,50]

The same approach will be used for positive clinical DNA samples to determine the species / subspecies of the disease agent. As it has already been determined, *the F. tularensis* present in Georgia belongs to the subspecies *holarctica* (type B), but very rarely in immunocompromised patients, disease can be caused by *Francisella tularensis* subsp. *novicida* or by *F. tularensis* subsp. *tularensis* (type A). While *F. tularensis* Type A and type B are easy to distinguish using routine PCR analysis, *F. tularensis* subsp. *novicida* can be confirmed only after sequencing. For clinical samples, PCR positivity will be compared with culture positivity, to determine the sensitivity of direct plating for identification of *F. tularensis.*

Molecular characterization of newly isolated F. tularensis strains: Newly isolated strains from environmental and human exposures will be characterized using different typing methods established at the NCDC of Georgia. Canonical SNP markers for *F. tularensis* B.Br.027[51] and MLVA-25 markers F.t.M3 and F.t.M4[52] will be used to characterize strains isolated. Besides, PCR positive clinical and tick/rodent DNA samples can be directly characterized before culture isolation with a rapid MLVA typing system using variable F.t.M3, F.t.M4 markers. The SNP typing methodology will be applied on the Real Time PCR cycler using the Sybr Green master mix, while PCR-based MLVA technique will be performed on Beckman Coulter Genetic Analysis System CEQ-8000.

All typing results will be added to the existing *F. tularensis* database and analyzed in compliance with phylogenetic, geographical, and epidemiological data. The DNA sequence of conserved *F. tularensis* housekeeping genetic markers (i.e., 16s RNA) will be determined at the CPHRL under the supervision of WRAIR and compared with archival and *in silico* database sequences in order

to augment diagnostic validation of species and subspecies determination. In addition, DNA sequencing of known molecular determinants conferring phenotypic variation within the *F. t. holarctica* subspecies will be performed to yield insight into the nature of molecular and phenotypic diversity within and across environmental and human-derived specimens.

Proteomic Studies: Different isolates of tularemia along with the reference live vaccine strain LVS will be cultivated in Heart Infusion Broth (HIB) medium until they will reach logarithmic growth. Bacterial cells will be collected by centrifugation, lysed in a buffer for 2-D electrophoresis, and incubated for 10 minutes at 95C. Lysates will be tested for sterility and further used in biochemical studies. The 2-D electrophoresis system from GE HEALTHCARE will be used. Iso-electrofocusing (IEF) will be carried out according to approved protocols that were developed under the CBR GG-18 project. In the pilot studies, we will test mainly two types of IEF strips: linear and non-linear strips with pH 3.0-10.0. SDS electrophoresis will be run using a gel apparatus system. Therefore, on one gel the strip with proteome of LVS tularemia samples will be loaded. Another five gels will be loaded with samples from the strains of interest. Gels will be silver stained without gluteraldehyde (in order not to interfere with mass spectrometry (MS) analysis) and images will be analyzed with 2-D Platinum software (GE Healthcare) to reveal differentially expressed bands. Only spots with more than two-fold of differences and showing consistent changes will be excised and subjected to MS analysis.

Comparative proteomic profiling of culture filtrate proteins of different Francisella tularensis strains: Bacteria secrete various substances as a means of coping with and surviving in hostile environments. Secreted proteins play important roles in bacterial survival strategies such as provisioning of nutrients, detoxification of the surrounding milieu, cell-to-cell communication, and modulation of host cell responses, and host-tissue colonization. They are also recognized as major virulence factors in the pathogenic process.[52] Therefore comparative characterizations of Georgian isolates of *Francisella tularensis* from this point is also of great importance. Selected isolates of *F. tularensis*, compared to the reference strain, will be cultivated in chemically defined Chamberlain medium. Culture filtrate proteins will be collected as described in the referenced methods.[53] 2-D electrophoresis and data analysis will carried out as described above for the tularemia proteome experiments and as used in the GG-18 project.

Phage typing as an additional tool for identification: Selective phage typing will be used as an additional differential diagnostic effort. This component will include subjecting aliquots of clinical sample material to a diagnostic panel of diverse selective phages to aid in identifying the presence of pathogens (*F. tularensis*, as well as Brucella for testing cross-reactivity) are included in the differential diagnostic regimen. Despite many efforts of scientists from different countries, there is still no report on the isolation of bacteriophage specific to *F. tularensis*. A limited number of documents presented by Russian scientists described isolation of Francisella bacteriophages, but no paper explains the stability and reliability of isolated phages. The Eliava Institute scientists have been working on the isolation of bacteriophage against vaccine strains of *F. tularensis* in the framework of the GG-18 project. To date, two bacteriophages with host bacterial strains from *P. aeruginosa* reveal lytic activity to the vaccine strain of Francisella, although the data need more detailed investigation and validation.

New Phage Discovery: Specimens, lytic for *F. tularensis* obtained from animal or environmental samples will be used to determine phage existence. Bacteriophages will be isolated by using standard enrichment techniques (Adams, 1961). A mixture of environmental samples (minced or grained) and appropriate bacterial cultures with different ratios will be incubated at relevant temperature for 12-24 hours. Suspensions will be centrifuged, filtered, and spotted on the lawn of corresponding bacterial strain. The plates then will be incubated during next 12-24 hours to detect clear zones of phage activity. The vaccine strain *F. tularensis* LVS (not a select agent) will be used for experiments for phage isolation. The agar overlay method will be used to enumerate formed phage plaques. The same approach will be used for phage isolation from the patient's blood sera. After several rounds of passages of isolated phage(s) on corresponding host bacterial strain, pure phage clones will be obtained. Isolated phages will be studied in detail,

particularly; we will study the morphology of phage particles, physiology (one-step growth properties), DNA characteristics, and structural proteins. Phages in high titer will be prepared and tested against bacterial collection of *F. tularensis* of the NCDC for determination of host range and specificity. Phages will be used for typing, as an additional test for diagnostic of bacterial strains of *F. tularensis*. The data will be evaluated on specificity and sensitivity and compared to the gold standard method for diagnostic of tularemia.

Expected Results

This project will:

- Estimate the public health burden of tularemia in Georgia
- Strengthen early identification and control capacity by:
    - Establishment, evaluation and validation of different diagnostic modalities
    - Fortification of the public health institutional and laboratory infrastructure and its response to tularemia outbreaks
    - Improving recognition of the disease and detection of risk factors for outbreaks
    - Strategic planning for disease control efforts to prevent outbreaks
- Describe the genotypic and phenotypic characteristics and antimicrobial resistance patterns
- Describe risk factors for transmission of tularemia
- Increase awareness among physicians, public health professionals as well as the general population regarding tularemia
- Implement and evaluate diagnostic methods for tularemia
- Provide better recognition and treatment will reduce the burden of disease and its concomitant socioeconomic impact. Enhanced surveillance will facilitate development of cooperative disease control efforts in the region to further anticipate outbreaks and contain transmission.

Human Subjects Considerations

As with all research projects we conduct, careful attention is being paid to maximize the benefit of the research to both the participants and community while minimizing harm. The Belmont Report is the framework utilized in developing study methods with constant focus on ethical considerations. Informed consent will be sought from all participants. The informed consent process will provide clear information about the study and emphasize participation is voluntary. In Georgia, making sure participation is voluntary is critical, as saying no is culturally difficult at times. Participants will also be clearly told that they can stop participation at any time. We expect substantial interest in participation given the benefits the study provides to participants.

The study has direct benefits to participants, as they will receive high quality laboratory tests to determine tularemia infection and potential co-infections. Such laboratory tests have limited availability in the country and typically are expensive. For those who have a negative test for *F. tularensis*, tests for co-infection will be valuable to provide an accurate diagnosis. This step is critical to maintain positive relations with participants and the community. To test only for *F. tularensis* and provide no insight into the cause of disease for those who are negative could results in a sense of being "used" for research by investigators. The community will benefit by knowing the existence of tularemia and the types of infections that are difficult to differentiate from tularemia.

All data will be kept by the NCDC in protected computers in protected offices. Only participants (and their physicians if consented) will be provided individual laboratory results. Confidentiality of information will be a high priority to protect participants for any form of discrimination.

NCDC will provide communities in the regions the study is conducted a report of the general findings without individual identifiers. This report will include information on the risk factors for

infection identified, the number of people infected, and general information on protective measures.

IRB review and hospital sites for sample collection from Human Subjects: As of January 2012, the main hospital system is being overhauled in Georgia. During this process, the actual hospital may be moved, closed, consolidated, or replaced. Therefore, final hospital site locations have not yet been determined for this project. Because of this issue, we will only describe the process for sample collection (below) and transport. Individual hospital locations will be added to this Form A as an appendix for the purposes of completing the facility assessments of a Biosafety and Biosecurity Review. Samples, once taken from consenting human subjects will be transported to the TADR network of ZDL's and LSS's laboratories for all testing and diagnostics. The hospitals only serve as a means to collect the specimen and receive informed consent. Individual IRB protocols will be written, reviewed, and approved once preliminary approval is obtained to begin the project. A separate biosafety and biosecurity review for the clinical protocols will be handled separately between clinical protocol completion and IRB approval.

Project Management

This project focuses on *F. tularensis* and will be undertaken at the collaborator institutes. The institute Director will appoint a Project Manager for the work to be performed at the institute. This work will be supported by an institute specific budget to perform the tasks outlined in this project description. In addition, there will be an overall Project Coordinator to serve as a point of contact for CBEP on the activities engaged under this project. The main task of the Project Coordinator is to ensure that all communications amongst the parties are supported and that coordination of data between the human and animal studies is working. The duties of the Project Coordinator are listed below.

1. Project Reporting
   - Consolidation of quarterly reports from participating institutes
   - Preparation of a short executive summary of quarterly reports
   - Leadership in preparation of project presentations and abstracts for conferences and international meetings
   - Facilitation of publications in peer reviewed journals

2. Scientific Leadership
   - Regular communications with U.S. Collaborators
   - Participation in Quarterly project calls (and monthly if time permits)
   - Organization of local meetings of the Georgian project participants to discuss the project progress
   - Participation in international conferences and meetings.

Meeting Goals and Objectives of CBR Program

This proposal addresses three CBEP goals:

1. strengthening dangerous pathogen detection and response networks
2. enabling discovery of the divers on or accidental release of biological materials
3. integrating host nation scientists and institutes with expertise in research and production into the international scientific community

The proposed study is important considering that *F. tularensis* species remains a significant veterinary and medical threat in Georgia. From a public health perspective, the development and application of more advance diagnostics could lead to a superior disease monitoring capability for the institute and function to enhance disease control efforts in Georgia. Detection and surveillance of these pathogens in natural foci areas will also permit an integrated understanding of pathogen circulation in the region. The design of the program is such that it requires significant

interaction with collaborators and scientists and institutes in the form of training, participation in U.S. scientific workshops and conferences and working in close contact with collaborating scientists in their laboratories.

Biosafety and Biosecurity Overview: All of the targeted bacterial pathogens are Class A agents of high bioterrorism importance and their handling is normally conducted under BL-3 safety conditions. All of the studies proposed in this application will adhere to the biosafety recommendations contained in the 5th edition of the Biosafety in Microbiological and Biomedical Laboratories (BMBL) Manual published jointly by the CDC and NIH (relevant text from the BMBL Manual is reproduced below for each pathogen). Samples may be processed in the field in mobile laboratories of the NCDC or in the NCDC's field stations. When the microbiological examination of those samples suggests that a targeted organism may be present, the samples will be transferred to the main laboratory at the NCDC for subsequent identification and processing using the biosafety recommendations for the targeted bacteria (From the 5th edition of the BMBL). Biosecurity: all samples will be kept in locked laboratories and locked refrigerators. Sample logbooks will be maintained and all samples and cultures will be kept under standard security measures as defined by CBEP.

F. tularensis: BSL-2 practices, containment equipment, and facilities are recommended for activities involving clinical materials of human or animal origin suspected or known to contain F. tularensis. Laboratory personnel should be informed of the possibility of tularemia as a differential diagnosis when samples are submitted for diagnostic tests. BSL-3 and ABSL-3 practices, containment equipment, and facilities are recommended for all manipulations of suspect cultures and animal necropsies. Preparatory work on cultures or contaminated materials for automated identification systems should be performed at BSL-3. Characterized strains of reduced virulence such as *F. tularensis* Type B (strain LVS) and *F. tularensis* subsp. *novicida* (strain U112) can be manipulated in BSL-2. Manipulation of reduced virulence strains at high concentrations should be conducted using BSL-3 practices.

Safety Issues: Safety at sample collection sites will be ensured by the use of standard personal protective equipment (PPE) as and where appropriate. We will use the following equipment: Tyvek coveralls, boots (12 in high), N95 respirators, safety goggles, disposable hats, and double gloves (inside pair taped to the sleeves of the coverall). Staff at the collection sites have been using PPE for many years, and are skilled in the safe handling of potentially infectious material. Samples for PCR analysis will be handled appropriately in Eppendorf tubes and heat inactivated at the earliest feasible time after sample collection and, as a result, the samples will be safe and non-infectious.

Pathogen	Biosafety Practices	Primary Barriers and Equipment	Facilities and Secondary Barriers
F. tularensis	- Standard Microbiological Practices - Limited and controlled access - Biohazard warning signs - "Sharps" precautions - Biosafety manual / SOP - Decontamination of all waste - Decontamination of laboratory clothing before laundering - Baseline serum	- Class I or II BSCs or other physical containment devices used for all open manipulation of agents - Protective laboratory clothing; gloves; respiratory protection as needed	- Laboratory bench and sink - Autoclave - Physical separation from access corridors - Self-closing, double-door access - Exhaust air not re-circulated - Negative airflow into laboratory

Approximate Budget

Additional details of the budget are in the Form B.

Relevance to DOD Program Objectives

- Knowledge of regional pathogens. This study will increase the knowledge of the epidemiology of *F. tularensis* in understudied geographic areas of natural and new foci's in Georgia and test hypotheses on the environmental conditions that promote tularemia outbreaks in-country.
- Gainful employment of scientists. This project will provide gainful employment for scientists working with especially dangerous pathogens.
- Transparency and integration. This project will promote transparency and integration of Georgian scientists into the global science community through participation in international conferences and publication of scientific papers in international journals.
- DOD has a significant requirement to establish the Baseline of Pathogenic Organisms in the Environment. This enhanced surveillance program resulting from this project will generate new information on important especially dangerous pathogens which will be mapped and described in detail.

Relationship to Other on-going, planned, and recently completed CBEP Projects

This study will serve as follow-on to the GG-18 project and links well with the ongoing Vector Surveillance studies in Georgia. The previous project, GG-18 demonstrated the presence of *F. tularensis* in Georgia and previously collected and new isolates and thousands of samples that could still be used on this project. CBEP encourages work to collect, review and analyze historical records of CBEP pathogens; to enter these data into an EIDSS-linked database that would allow rapid identification of unusual patterns of clustering of disease anywhere in the country.

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COOPERATIVE BIOLOGICAL RESEARCH
Georgia
Project Proposal

Latest Revision: 09/11/2013
Project Number: GG-20_V24

Project Title

Prevalence, Epidemiological Surveillance, and Laboratory Analysis of *Coxiella burnetii* in Georgia

Project Summary

The overall goal of this study is to establish baseline information on the geographical distribution and prevalence of several zoonotic and veterinary diseases in Georgia. The project will mainly focus on *Coxiella burnetii* (etiologic agent of Q fever). This project is focused at the Laboratory for the Ministry of Agriculture (LMA) with some research (genotyping) being conducted with Walter Reed Army Institute for Research (WRAIR), at the Central Public Health Research Laboratory (CPHR, Tbilisi Georgia). The National Food Agency (NFA, Tbilisi, Georgia) will be responsible for field sampling and surveillance. This project will provide an opportunity to gather more information concerning the disease prevalence, distribution, and potential diagnostic assays that can be used to identify and detect this pathogenic agent.

In this study, the entire country of Georgia will be surveyed over a three-year period for the prevalence of *Coxiella burnetii*. Sample collection, epidemiological investigation, and *Coxiella* diagnostics will be used in each region of Georgia. Particular attention will be placed on regions with large animal populations and regions that are located at the border of other countries (it is presumed that many zoonotic diseases cross into Georgia). It is important to note that the presence of this pathogen will be examined using several different diagnostic techniques, including rapid tests and Polymerase Chain Reaction (PCR). This project is designed in two distinct parts: a) As a comprehensive surveillance study to establish baseline information on disease prevalence, resulting in a more accurate assessment of the geographic distribution of *Coxiella* in animals and improved recognition of the disease in this region. B) As a research study, to investigate specific questions regarding *Coxiella burnetii* genotypes in small ruminants and cattle in Georgia.

The successful implementation of this project will provide better recognition and understanding of the range, location, and frequency of Q fever in Georgia, which has never been examined before. Detailed characterization of *Coxiella* will provide a broader understanding of the differences in the disease/pathogen found in various areas of Georgia compared to other areas around the world. In addition, the ability to localize specific geographical areas will assist the LMA and NFA with potential future threats of proliferation of *Coxiella*, which may be the source of future epidemics. At the same time, state-of-the-art diagnostic and genetic technologies will be transferred to the Georgian collaborators, increasing their knowledge of the technologies available for such research and surveillance. In addition, the tools and expertise developed through the course of this project will be directly applicable to any other disease found in the country. Finally, enhanced surveillance capability will improve the relations with neighboring countries by facilitating cooperative disease control efforts. All of these goals will be achieved by providing better laboratory diagnostics, enhanced GIS data, and modern laboratory-based characterization of *Coxiella*.

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Detailed Project Information

Project Description (Introduction and Overview)

Introduction

Q fever was first described in 1935 in Queensland, Australia, during an outbreak of a febrile illness of unknown origin (Query fever) among abattoir workers. It has been classified as a "Category "B" critical biological agent" by the Centers for Disease Control and Prevention and is considered a potential weapon for bioterrorism. Q fever is a public health concern throughout the world, and while Q fever is an OIE notifiable disease, it remains poorly reported and its surveillance is often neglected.

Q fever is a zoonotic bacterial disease resulting from infection by *Coxiella burnetii*. Domestic ruminants (cattle, sheep, and goats) are considered to be the main reservoir for the pathogen, which can infect a large variety of hosts, mammals (humans, ruminants, small rodents, dogs, and cats), birds, fish, reptiles, and arthropods; Q fever infections remain poorly understood and their prevalence is largely underestimated in both humans and animals. *Coxiella burnetii* is an obligate intracellular pathogen and has been traditionally placed it in the family Rickettsiaceae; however, recent phylogenetic studies have demonstrated that *C. burnetii* is more closely related to *Legionella* and *Francisella* than *Rickettsia*. Two different antigenic forms of *Coxiella burnetii* can be distinguished. The difference between phase I and phase II bacterial forms is found in the variation of the surface lipopolysaccharide (LPS) as classically described for enterobacteria. Only phase I bacteria have a complete LPS on their surface and are virulent bacteria. Phase I bacteria can be isolated from a naturally infected individual or from animals infected in a laboratory. On the other hand, phase II bacteria have an incomplete LP5 due to a spontaneous genetic

deletion of 25,992 base pairs and are non-virulent. Phase II bacteria occur during serial passage in an immunologically incompetent host, such as cell cultures or fertilized eggs.

The most important route of infection is inhalation of bacteria, particularly in contaminated dust, while the oral route is considered to be of secondary importance. Once inhaled or ingested, the extracellular form of *Coxiella burnetii* (or SCV after small-cell variant) attaches itself to a cell membrane and is internalized into the host cells. Phagolysosomes are formed by the fusion of phagosomes with cellular acidic lysosomes. The multiple intracellular phagolysosomes eventually fuse together, leading to the formation of a large unique vacuole. *Coxiella burnetii* has adapted to the phagolysosomes of eukaryotic cells and is capable of multiplying in the acidic vacuoles. In fact, acidity is necessary for its metabolism, and is needed for functions including nutrients assimilation and synthesis of nucleic acids and amino acids.

Epidemiological and Clinical Aspects

Under experimental conditions, inhalation of a single *C. burnetii* can produce infection and clinical disease in humans. However, similar studies have not been done in animals. Infected animals contaminate the environment by shedding *Coxiella burnetii* in milk, feces, urine, saliva, and very importantly in vaginal secretions, placenta, amniotic fluids, and other products of conception. *Coxiella burnetii* survives well in the environment and can spread by wind causing infections at a distance from the initial source of bacteria. In domestic ruminants, unpasteurized milk is the most frequent route of pathogen shedding. The World Organization for Animal Health (OIE) advises not to drink raw milk originating from infected farms. Further research is required to clarify the probability of infection by the oral route.

Q-fever in Animals

Cattle: Q fever is widespread in cattle across the globe, and its seroprevalence is thought to have increased in recent years. Often neglected in the differential diagnosis, Q fever can persist in a herd causing great financial losses. In cattle, Q fever is frequently asymptomatic. Clinically infected cows develop infertility and mastitis. In addition, *C. burnetii* was found to be significantly associated with placentitis. Unlike humans and experimentally infected cows, naturally infected cattle rarely present respiratory or cardiac signs. Epidemiological data has shown that cows are more frequently chronically infected than sheep with persistent shedding of bacteria as a result. The sites of chronic *Coxiella burnetii* infection are the uterus and the mammary glands of females. Moreover, heifers are less frequently infected than older animals, even in infected herds, making those a preferential group for effective vaccination programs.

Goats: Numerous studies have suggested that epizootics of Q fever in goats are related to outbreaks in humans. Indeed, in many countries, goats are the most common source of human infection due to their extensive raising and close contact with humans. Q fever in goats can induce pneumonia, abortions, stillbirth, and delivery of weak kids, the latter two clinical signs being the most frequently observed. Abortions occur principally nearing the end of the pregnancy. The frequency of occurrence of Q fever abortions in goats is more important than in sheep with up to 90% of females being affected. Shedding of *Coxiello burnetii* by infected goats is discontinuous. In naturally infected goats, shedding seems to be limited to the kidding season following infection.

Sheep: Sheep have a predisposition for abortion similar to goats. However, Q fever in sheep seldom causes chronic infections. Infected sheep, like goats, shed *Coxiella burnetii* in vaginal secretions, urine, feces, and to a lesser extent in milk. In naturally infected sheep, the bacterium has been isolated in

vaginal discharges after abortion and can be shed in subsequent pregnancies. In certain areas of the world, similar to goats, sheep are an important source of human infections.

Shedding in animals: In several studies, shedding of *Coxiella burnetii* in milk by infected cows can be as high as in 50% of infected animals and can be the most frequent positive sample for the bacterium, when compared to feces and vaginal mucus samples. Studying shedding profiles in animals in Georgia is extremely important, especially for understanding the involvement of small ruminant infected herds and transmission by an airborne route. These factors have been highlighted across Europe over the last 10 years as there have been several recent and large Q fever epidemics in the Netherlands and Europe since 2007. Taking into account the epidemiological importance of small ruminants and given the lack of reliable data on numbers of *C. burnetii* discharges (especially in Georgia), this study will be aimed at describing sheep and cattle responses to *C. burnetii* infection in an abortive context, in terms of antibody levels, shedding levels, and susceptibility.

Diagnostics

Detection of *Coxiella* infection will be based on collection of blood samples, milk samples, as well as swabs (as needed) from cattle, sheep, and goats and performing sero-surveys. In addition, blood cultures will be fixed using common molecular diagnostics reagents compatible with PCR amplification. If any culturing is planned at the Richard G. Lugar Center for Public Health Research (CPHR), additional Cooperative Threat Reduction (CTR) Biosafety and biosecurity (BS&S) review will be required. Polymerase chain reaction (PCR) and enzyme-linked immunosorbent assay (ELISA) performed on samples and a simple analysis of serum samples of at least 10% of the animals in a herd will provide a rapid and economical method for obtaining valuable information on the herd's infection status. In cows' milk, *Coxiella burnetii* can still be identified up to 32 months postpartum. Vaginal and fecal bacteria discharges seem to have a major impact on environmental contamination because of practices at kidding and effluent management.

Scientific Goals

This project is designed to provide the initial research and background information for the development of a comprehensive epidemiological surveillance project in Georgia and provide a baseline understanding of the geographic distribution of *C. burnetii* in certain regions of this country. The research proposed will focus on at least two specific research priorities cited in the CBEP Research Agenda (July 2011). In addition, we will perform basic research with all of the institutes with *C. burnetii*, which includes genotyping of variations through WRAIR at the CPHR.

Aim 1: To study the sero-prevalence of *Coxiella burnetii* among exposed cattle and small ruminants across Georgia and understand epidemiological data risk factors related to sero-positivity.

Aim 2: To establish active surveillance and detection of cases of Q fever across Georgia with the goal of increasing the identification of the disease and collecting isolates from veterinary cases.

Aim 4: To implement and evaluate new diagnostic methods for Q fever in Georgia.

Aim 5: To study *Coxiella burnetii* using DNA sequencing and genotyping.

Technical Approach and Methodology

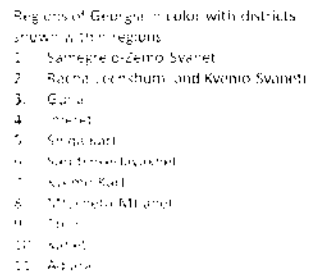
Overall Scientific Approach:
We will address each of the specific aims described above through an overall scientific plan, outlined in detail below.

Project Logistics
The duration of the project is 3 years. LMA (along with regional laboratories) will be accountable to the Ministry of Agriculture. The U.S. collaborators (WRAIR and the Univ. of California team) will assist the Georgian collaborators to promote and implement the project successfully. The CBEP GG will assist with program and project management and continued efforts under the CBEP GG program. The researchers will be focused on five main parts of this project:

I. Collection and in-the-field analysis of veterinary samples. In this area we will be utilizing OIE Standards for sampling animals, collection of samples, transport of samples and diagnostics in the laboratory.
II. Laboratory diagnostics, which will be carried out using modern methods and processes that are common to the CBEP program and using CBEP-sponsored laboratories, techniques will include: bacteriology, serology, and molecular diagnostics.
III. Epidemiological, geographic information system (GIS), and animal population genetics and susceptibility studies of ruminants and cattle in Georgia; and prevalence studies of this pathogen.
IV. Education and training of Georgian veterinarians and scientists in new methodologies and control measures for this pathogen.
V. This project will emphasize the geographical distribution of *Coxiella burnetii* and catalog animal reservoirs and disease prevalence. The overall approach of this project will be to combine sampling events over a 3 year period and compare molecular data between each event. The project will consist of several sampling expeditions each year in the spring and the fall across Georgia using the sampling scheme described in the technical methodology section.

1.1 *Preparation for Sample Collection:* In the first part of this project, CBEP GG will work with both NFA and LMA to review OIE standards for sampling, sample collection, safe handling, and processes used as part of the OIE standards for collection, transport, and evaluation of samples. In the first few months of the project, CBEP GG will mentor and train the LMA and NFA to update standard operating procedures and protocols using the OIE standards. Updating of CBEP related SOPs will be done for sample collection and handling of potentially dangerous diagnostic animal samples classified under UN 2814 and UN 2900, with regard to packing instructions given under UN 620 (IATA approved shipping guidelines). We will establish OIE guidelines and protocols by overlaying these protocols and meshing them with current Georgian procedures and CBEP algorithms for testing, handling, and sampling of veterinary pathogens

1.2 *Sample collection and Preparation:* The following sampling scheme will be used for this study. A team of three individuals (all 3 from NFA) will conduct sampling expeditions (training on field sampling and approach conducted by PNNL). The roles of the sampling team are:



a) Driver/ Veterinarian(NFA)
b) Veterinarian (NFA)
c) Epidemiology/GIS specialist (NFA)

1.2.1 *Sampling:* Sampling will take place across Georgia. Georgia is divided into 9 regions, 1 city, and 2 autonomous republics. These in turn are subdivided into 69 districts. For this study, the country will be divided into three major areas and the general premise will be to sample the first area (composed of 4 regions of Georgia) in year 1. Then, in year 2 the team will sample area 2 (composed of 4 regions of Georgia) and will also go back to area 1 and sample any 'hot spots'. Then, In year 3, the team will sample the third area of Georgia (composed of 3 regions in Georgia) and then go back to area 2 and sample any 'hot spots'. At the end of year three, the team will also go back to area 3 and re-sample any final 'hot spots' from that area. For safety and security, the autonomous region of independence, Abkhazia, will not be considered or sampled in this project. Throughout the year, the sampling will be conducted in the spring and fall of that year while animals are near the villages. Approximately 5,000 animals will be sampled in the first year; 2,500 sheep and goats (as evenly split as feasible) and 2,500 cattle. In years 2 and 3, each year an additional 5,000 animals will be samples in new regions (as described above) with an additional 1,000 samples (500 sheep and goats and 500 cattle) re-sampled from the 'hot spot' locations as identified by the data.

1.2.2 Year 1: Area 1: composed of the following regions: Racha-Lechkhumi and Kvemo Svaneti, Guria , Imereti, and Mtskheta-Mtianeti

1.2.3 Year 2: Area 2 and hot spots from area 1: Shida Kartli, Samtskhe-Javakheti, Kvemo Kartli, and Samegrelo- Zemo Svaneti

1.2.4 Year 3: Area 3 and hot spots from area 1 and 2: Tbilisi, Kakheti, and Adjara

1.3 *Sample collection and testing:* The NFA team (along with PNNL) will be equipped with Global Positioning System (GPS) units to record the physical location of each specimen. In addition, epidemiological information will be gathered and a questionnaire will be completed with the animal owners. At each sampling location, veterinarians will take blood (two vials (one red cap and one purple cap), milk (if applicable and available), and swabs. Swabs will only be collected sparingly and as needed to obtain a potentially better sample source for detecting the shedding of *Coxiella*. Samples are placed in biohazard bags as secondary containers using personal protective equipment (PPE) precautions to avoid contact with potentially infected material (see the "safety" section below). The epidemiologist will record all information and samples will be transported en masse back to the Laboratory Support Station (LSS) and Zonal Diagnostic Laboratory (ZDL) laboratories for that specific region of Georgia. Once all of the samples are accessioned, serological testing will be performed on one of the blood tubes from each animal, which will test for *Coxiella burnetii*. All positive and negative samples will then be packaged and sent to the LMA for further testing and analysis. The samples delivered to the LMA will be processed: e.g. serum preparation, extraction of nucleic acids for pathogen detection, and other diagnostics tests (described below).

1.4 *DNA Isolation and Purification*: In this study, animal samples will be used for extraction of nucleic acids for PCR analysis using DTRA approved protocols and reagents (conducted at the LMA). Specifically, we will prepare genomic deoxyribonucleic acid (DNA) and Ribonucleic Acid (RNA)

from each isolate in two ways: a) DNA will be extracted from swabs and milk by using Chelex resin: 200 µL of milk will be added to 400 µL of Chelex suspension; then, it will be incubated and shaken for 30 min at 56°C, followed by an incubation step for 8 min at 100°C. The clarified supernatant will be used for PCR and Single Nucleotide Polymorphism (SNP) genotyping. b) Genomic DNA from blood (for *C. burnetii*) will be isolated using Qiagen DNA mini kits following the manufacturer's instructions. Purified DNA will be aliquoted into individual Eppendorf tubes, cataloged to their source, and frozen for future molecular biological work. Genomic DNA will be quantified using pico green and spectrophotometric readings at A260/A280 before storage to assure that sufficient quantities of DNA have been prepared for future studies.

1.5 *PCR Detection of Coxiella burnetii species:*

Coxiello: DNA samples will be evaluated by PCR and all samples will tested by an in-house real-time PCR directed toward the *C. burnetii*–specific IS*1111a* element at the LMA ZDL laboratory. An inhibition control will be constructed by using the primers of the IS*1111a*element. PCR will be performed at the LMA using their in house Real Time PCR thermocycler. The mix used will consist of 400 nmol/L of primers and 200 nmol/L of probes in: 7 µL PerfeCTa Multiplex qPCR Supermix, uracil-n-glycosylase (2×) with Low Rox dye, 1 µL of inhibition control, 5 µL of sample, and 7 µL of water. An initial uracil DNA glycosylase (UDG) incubation is carried out for 5 min at 45°C and denaturation/activation for 60s at 95°C. This is followed by 40 cycles of denaturation for 10s at 95°C, and annealing for 30s at 60°C.

1.6 *SNP genotyping of Coxiella burnetii*: Recently, two DNA-based methods for typing *C. burnetii* were reported. Single Nucleotide Polymorphism (SNP) genotyping methods are based on single nucleotide variations in the DNA elements on multiple loci in the genome of *C. burnetii* and may be more discriminatory than multi-spacer, MLVA sequence typing. SNP genotyping can also be performed on *C. burnetii* strains or directly on DNA extracted from clinical samples. Several SNP markers have been described. The main drawback of genotyping from clinical samples is the variable quality and amount of DNA. These drawbacks influence the ease with which samples can be typed, resulting in partial genotypes; whether the missing values are caused by insufficient DNA concentrations and quality problems or by an absence of loci is unclear. If loci are absent, partial genotypes also are expected to be found in samples with high DNA loads. The high diversity indices for the SNP's of *C. burnetii*, as previously reported in the literature, indicate a high discriminating power, and this capability makes SNP typing suitable for distinguishing *C. burnetii* isolates. In this study, SNP typing will be performed by WRAIR scientists at the CPHR by using a selection of the SNP's described by Arricau-Bouvery *et al.* according to the analysis databases for genotyping http://minisatellites.u-psud.fr/MLVAnet/querypub1.php. The PCR amplification will be performed at the CPHR in a total volume of 25 µL containing 1× reaction buffer, 1 U True Start *Taq* DNA polymerase, 2 mmol/L $MgCl_2$, 0.2 mmol/L of each nucleotide (dATP, dGTP, dCTP, dUTP), 0.5 µmol/L of each primer, 0.5 U UDG, and 2–5 µL template. An initial UDG incubation will be carried out for 5 min at 37°C and denaturation/activation for 2 min at 95°C, followed by 40 cycles of denaturation for 30s at 95°C, annealing for 30s at 60/65°C, elongation for 30s at 72°C, with a final extension step for 5 min at 72°C completing the amplification. After the amplification, 0.5 U UDG inhibitor will be added to the PCR reactions to prevent further UDG activity. The SNP's will be determined based on the published and corrected annotation of the genome. Reproducibility was checked with positive controls. SNP patterns then be determined and compared to the publicly accessible SNP analysis databases for genotyping. DNA from the *C. burnetii* "Nine Mile" strain will be used as a reference. This work will be conducted by WRAIR with LMA molecular biologists.

1.7 *Shedding in sheep and cattle:* In this study, nine specific farms with animals that can be tracked and sampled will be chosen (three farms per year, for each of the three areas of Georgia) two per year for *Coxiella burnetii* shedding evaluation. Sampling of swabs will be performed by the NFA team on the day of kidding, and blood will be taken during the month following the kidding peak. Seroprevalence will be investigated using ELISA with a cutoff of 40% OD as recommended by the supplier and will be conducted by the LMA. In addition, a real-time IS1111-PCR will be used for quantification of vaginal bacterial shedding. DNA standards will be used in each qPCR run for an expression of cycle threshold (Ct) values in numbers of bacterial genome copies, but also for calibration to ensure reliable reproducibility, which is not obtained with the instrumental Ct values. According to the reproducibility of the assay for the weak quantities of *C. burnetii*, the animals giving less than 500 *C. burnetii* per swab will be considered as non-shedders. Animals will be defined as susceptible if found to be sero-negative and non-shedders. We will look for sero-positivity and sero-negativity, as well as the percentage of animals that abort during the season. The frequency of susceptible animals within the herd in relation to shedding and symptoms, as well as seronegative animals that shed bacteria will also be studied.

1.8 *Microbiology*: *Coxiella burnetii* is a gram-negative bacterium that causes the zoonotic disease Q fever. Traditionally considered an obligate intracellular agent, the requirement to be grown in tissue culture cells, embryonated eggs, or animal hosts has made it difficult to isolate strains and perform genetic studies on *C. burnetii*. However, it was recently demonstrated that the attenuated Nine Mile Phase 2 (NM2) *C. burnetii* strain would grow axenically (Not contaminated by or associated with any other living organisms. This is usually used in reference to pure cultures of microorganisms that are completely free of the presence of other organisms) in acidified citrate cysteine medium (ACCM) in a 2.5% oxygen environment. The current study will be undertaken to determine whether more virulent *C. burnetii* strains could be grown in ACCM, and whether virulence would be maintained after passage. The ACCM medium supports a 1000-fold expansion of strains of *C. burnetii*. To determine if passage in ACCM would maintain the virulence of *C. burnetii*, we will grow isolated strains for up to 26 weekly passages in ACCM. This section of the project (1.11) is reserved for future work at the CPHR. *This work must be conducted in a BSL-3 laboratory under BSL-3 working conditions. For this specific study, it is important to note that this section of the project is reserved for a separate Biosafety and Biosecurity review; separate protocols and Standard Operating Procedures (SOPS) are required and a separate DTRA-sponsored Biosafety and Biosecurity Review (BS&S) will be needed. The series of steps necessary to start this part of this project is triggered by a) collection of ample animal samples that can be confirmed positive, b) the need for research work as deemed necessary by the collaborators and investigators, and c) the availability of research space at WRAIR in the CPHR. Section 1.11 (C. burnetii microbiology) will not be considered as part of the initial review of this research proposal and at no time does microbiology and bacteriology occur in this proposal.*

1.9 *Geographic Information Systems*: Geographic Information Science (GISc) and Geographic Information Systems (GIS) continue to play an ever-increasing role in international research across disciplines. The application of spatial data management and spatial analyses intuitively fits into research agendas that focus on a wide variety of topics, such as resource management, health and disease surveillance, ecology, socio-environmental, and socio-economic patterns, to list a few. While the application grows, so too does the number of GIS techniques, computer applications and hardware, and GISc trained personnel. Disease studies readily lend themselves to GIS-based analyses because diseases are spatial in nature. Disease agent survival and transmission are linked to specific ecologies that promote the long-term survival and fitness of disease agents

(species' specific organisms that cause disease) and those reservoir or host populations that sustain the disease agents. We can evaluate geographic phenomena, such as microhabitats, that allow for the interaction of disease agents, vectors, and hosts. This is done through the integration of multiple disparate data sets, linked through a relational database. In GIS, the visualization component equates to digital map development. The disparate data sets used to develop a spatial visualization (map) of microhabitats might include satellite-derived precipitation maps, elevation maps, soil types, forest cover, etc. By evaluating each of these in a multivariate paradigm, a single map can be produced to evaluate the intersections in geographic space where appropriate environmental conditions exist to promote the target species or disease transmission cycle. In short, GIS is a methodology and digital infrastructure for evaluating data in space. This is done through integrating databases with map visualizations. With today's technology, databases are limited only by academic imagination. As long as we invest effort and forethought into our database infrastructure, we will be able to expand and scale our GIS applications to capture data on multiple diseases, disease ecosystems, and study designs. This can be done across scales from the local or microenvironment to national or regional macro scales. The LMA team will lead the GIS efforts; however, the NFA team will also work in concert with the LMA team to map areas which provide positive samples.

1.10 *Mapping and Modeling Disease Distributions:* The following descriptions detail the methods that can be employed to geo-locate (assign a geographic location to) existing samples when GPS units are not available. When GPS units are used, Garmin GPS units will be downloaded to MapSource software, exported as DWG files, imported to ArcGIS, and converted to geodatabase files. The method below can be defined by the spatial resolution of the data sets it can be used for: In order to develop a data set that can be employed with ecological modeling techniques for large geographic areas (continental or country level), existing samples can be assigned geographic locations from the village-level datasets. This will provide a relatively coarse description of locations. Nevertheless, these data are entirely appropriate for modeling with large cell-size grid sets of environmental data. For example, these data will be adequate for testing ecological niche and distributional models with 8x8 km gridded environmental data. This will match the resolution of analyses currently completed and/or ongoing for CBR projects in other CBEP engagement programs in other countries with collaborator (b)(6) and his team from Univ. of Florida.

1.11 *Space-Time Analysis:* Epidemiological investigations that include analyses of disease clusters may provide accurate assessments of risk (Jacquez 1996). Identifying areas with clusters or a raised incidence of health events can give insight into the transmission and ecology of a disease. Cluster detection methods are generally classified as being spatial, temporal, or a combination of both space and time (space-time or spatio-temporal). In general, spatial analyses assess the presence of clustering on the landscape whereas temporal analyses identify the possible grouping of events in time. In conjunction with others, these clustering techniques help facilitate the coordination of spatially targeted control measures (Caldas de Castro et al. 2007). Broadly speaking the presence or absence of clustering can be performed either retrospectively or prospectively. Thacker and Berkelman (1988) describe that the significant difference between retrospective studies, one-time analyses of information, and prospective surveillance is that the latter involves the continual collection of data. Retrospective analyses are often carried out as a one-time analysis of past data, after the onset of an outbreak. The types of analysis that use an accumulation of past events are valuable since they may reveal certain factors that may have contributed to the propagation of an illness. The prevalence of these techniques in the literature provides a valuable reference resource for analyzing the spatial (Kulldorff 1997) and/or temporal distribution (Wallenstein 1980) of past

health events. We will structure our data set development and GIS training sessions based on the following technique-specific criteria and software applications:

Statistical Technique	Cumulative Sum (CUSUM)
Hypotheses tested	H_0: There are no significant deviations from the baseline expectation established by calculating the average amount of time between false significant events H_1: There are significant deviations above baseline at specific time periods and in specific locations on the landscape
Required information for analysis	Time, location, some measure of population, confirmation/corroboration of pathogen isolation
Database requirements	Geolocation of outbreaks at point or aggregate level in a single column; sequential listing of the dates into2-digit format (e.g. 98 not 1998)
Statistical requirements	Multiple z-score calculations (one for each location and each time period; e.g. 100 sites over 10 years equals 10 z-scores for each of the 100 sites)
Software required	GeoSurveillance 1.1 (freeware); OpenStat and R (freeware)
Application to CBEP goals	Directly addresses the concept of disease baseline by evaluating methods for calculating space/time specific baselines and evaluating time/space specific deviations (increases or decreases) around the baseline

Statistical Technique	Space-time Clustering (SaTScan)
Hypotheses tested	H_0: There are no significant clusters in space or time, or in specific places at specific times H_1: There are significant spatial, temporal, or spatio-temporal

	clusters on the landscape
Required information for analysis	Time (date), location (as a point or polygon), confirmation/corroboration of pathogen isolation
Database requirements	A data set of geospatial locations, a data table of events in sequential time
Statistical requirements	Sequential events with equal intervals (months, years, or days); no conversions required (e.g. no need for standardized z-scores)
Software required	SaTScan (www.satscan.org; freeware – available at APS from AJ-3 PDG)
Application to CBEP goals	Directly identifies specific locations, populations, and time periods with significant increases in disease prevalence (or incidence); these data can then be evaluated with other parameterized predictive statistics (such as regression) to link environment (physical or socio-economic) to disease

Statistical Technique	**Local Moran's I (LISA analysis)**
Hypotheses tested	H_0: There are no significant clusters in space H_1: There are significant spatial clusters on the landscape
Required information for analysis	Disease event data aggregated to a gridded or political boundary. LISA are group-level statistics that evaluate spatial autocorrelation and require polygon data
Database requirements	A shapefile of contiguous polygons (either political boundaries like rayons or a grid file of squares or hexagons) with aggregated case numbers, incidence, or prevalence

Statistical requirements	Limited sample sizes present the problem of small numbers and it is useful to employ Shapiro-Wilk and evaluate normality
Software required	GeoDa (www.geodacenter.asu.edu; Freeware); also possible to employ ArcGIS 9.x Spatial Statistics Tool Box to run statistic
Application to CBEP goals	Directly identifies specific locations or regions with significantly more disease events ('hotspots') or fewer ('coldspots') than expected; also identifies spatial outliers of increased/decreased cases
Statistical Technique	**Predictive Ecological Niche Modeling**
Hypotheses tested	H_0: There are no significant ecological relationships to define a vector, host, or pathogen's distribution
	H_1: There are significant non-random relationships between the pathogen, host, or vector that can be applied to the landscape to predict the potential geographic distribution of the target species.
Required information for analysis	A point-level data set describing confirmed locations of the target species. A set of environmental variables describing landscape characteristics such as temperature, precipitation, altitude
Database requirements	An Excel file of location data for point events; A set of ASCII files containing gridded values of climate
Statistical requirements	No specific limitations; it is ideal to have 25 or more locality events and 5 or more environmental variables
Software required	DesktopGARP 1.1.6 (Freely available)

Application to CBEP goals	Directly identifies potential areas where the target species may be located on the landscape; particularly useful for understanding areas of persistence and for identifying new areas on the landscape where current surveillance efforts are not employed

Statistical Technique	**Principal Components Analysis (PCA)**
Hypotheses tested	H_0: There are no significant ecological relationships to define a vector, host, or pathogen's distribution H_1: There are significant non-random relationships between the pathogen, or host, or vector that can be applied to the landscape to describe differences between pathogen locations and the rest of the environment. (This can also be applied to risk factors or socio-economic data).
Required information for analysis	A point-level data set describing confirmed locations of the target species. A set of environmental variables describing landscape characteristics such as temperature, precipitation or altitude
Database requirements	An database file of location data for point events; A set of ASCII or Arc/Info Grid files containing gridded values of climate
Statistical requirements	Assumptions of correlation (normality, linearity) need to be evaluated
Software required	R or OpenStat (both free to download at APS)

Application to CBEP goals	Provides an exploratory technique for evaluating ecological or socio-economic components of EDPs

Anticipated Results

As we already mentioned, the country of Georgia does not have official statistics on *Coxiella*, but we do know that this disease exists in Georgia. Successful completion of this project will increase capabilities for detection and eradication of this disease in Georgia, improve the control of this disease, and hence positively affect animal health in Georgia. This will reduce economical loss, which is very important for this small country with a growing economy. The successful completion of this proposed project will help to establish, for the first time, a strong Georgian surveillance program for *Coxiella burnetii*, which may be used to monitor rigorously the emergence, prevalence, and dissemination of Q-fever, including cases that could be of increased public health and bioterrorism importance. In addition, this project will play a critical role in expanding Georgia's diagnostic capabilities for detecting *Coxiella*. Thus, we expect that the project will:

1. Establish well-equipped research laboratories in key Georgian institutions, which will significantly improve that country's veterinary health system, by enhancing the surveillance, detection, and research of this pathogen. GIS will be used to manage and visualize (map) the distribution of *Coxiella*. A master database will be shared between NFA and at LMA. This will consist of data from veterinary surveys, laboratory results as well as any epidemiological or diagnostics information. Throughout the project, the role of spatial analysis will expand from production of maps to advanced spatial and temporal modeling and statistical analysis of the data sets.

2. Generate databases (e.g., GIS) and other information crucial for developing diagnostic tools for accurately monitoring the emergence, prevalence, spread, seasonal migration patterns etc., of *Coxiella burnetii* in Georgia, and for predicting future disease demographics and occurrences. In addition, the data will be critical for developing science-based strategies for managing the potential dissemination of infection caused by *Coxiella*.

3. This project will train a new generation of Georgian scientists in modern biotechnology techniques, and more importantly, establish OIE guidelines and protocols by overlaying these protocols and meshing them with current Georgian procedures and CBEP algorithms for testing *Coxiella*.

4. Strongly contribute to the long-term sustainability of veterinary and animal health research in Georgia.

5. Provide peer-reviewed publications generated from this research. Proposed Publications include:
   a. Genotypic Diversity of *Coxiella burnetii* in the Republic of Georgia
   b. Molecular Epidemiology of *Coxiella burnetii* from Ruminants in Georgia
   c. *Coxiella burnetii* shedding and antibody responses in dairy goat herds in Georgia
   d. Development of tools for surveillance of *Coxiella burnetii* in domestic ruminants in Georgia

From the scientific perspective, we expect that the basic science studies in our program project will yield a large amount of novel data about *Coxiella* in Georgia, including the prevalence, genetic background, *in vitro* and *in vivo* properties, evolutionary traits, etc. Specific goals and expected outcomes are reviewed in the relevant sections throughout this proposal. In addition, this study will improve our understanding of the complex interrelationships between various animal and zoonotic diseases and co-infections in the environment.

Finally, and on a more general level, the project will:

1. Strengthen interactions and new collaborative ties between the collaborating Georgian institutions and researchers.

2. Provide infrastructure support for key scientific institutions in Georgia, and provide training and career advancement opportunities for its scientists.

3. Facilitate the transfer of sophisticated research approaches and techniques to the collaborating institutes in Georgia.

This project links several research studies into one cohesive research program that, taken together, will provide the ultimate output in data collection, analysis, and extrapolation. These three linking programs are:

1. Geographic Information Systems (GIS)
2. Genome research / sequencing and bioinformatics
3. Application of OIE standards and surveillance into current methodologies

Project Management

Project logistics will be managed by the CBEP-GG. This project is focused on *C. burnetii* and will be conducted at multiple institutes (WRAIR at the CPHR, the LMA, and NFA in Tbilisi, Georgia). Several LSS laboratories in the Threat Agent Detection and Response (TADR) network will also be utilized. This work will be supported by an institute specific budget to perform the tasks outlined in this project description. The duties of the Project Manager are listed below.

1. Project Reporting
   - Consolidation of quarterly reports from participating institutes
   - Preparation of a short executive summary of quarterly reports
   - Leadership in preparation of project presentations and abstracts for conferences and international meetings
   - Facilitation of publications in peer reviewed journals

2. Scientific Leadership
   - Regular communications with U.S. Collaborators
   - Participation in Quarterly Project Calls (and monthly if time permits)
   - Organization of local meetings of the Georgian project participants to discuss the project progress
   - Participants will present data and research findings at international conferences and meetings.

Meeting Goals and Objectives of CBR Program, Biosafety and Biosecurity

CBEP Goals: The proposed study is important considering that the *C. burnetii* species which will be explored in this project remains a largely unknown and potentially significant veterinary and medical threat in Georgia. From a veterinary and zoonotic public health perspective, the development and application of more advance diagnostics could lead to a superior disease monitoring capability for the institute and function to enhance disease control efforts in Georgia. Detection and surveillance of this pathogen in natural foci areas will also permit an integrated understanding of pathogen circulation in the region. The design of the program is such that it requires significant interaction between collaborators, scientists and institutes in the form of training, participation in U.S. scientific workshops and conferences, and working in close contact with collaborating scientists in their laboratories. This proposal addresses three CBEP goals:

- Strengthening dangerous pathogen detection and response networks
- Enabling discovery of the diversion or accidental release of biological materials
- Integrating host nation scientists and institutes with expertise in research and production into the International scientific community

Biosafety and Biosecurity Overview: Coxiella burnetii is a bacterial pathogen that is currently a Class B agent of high bioterrorism importance. The handling of this agent is normally conducted under BSL-3 safety conditions. All of the studies proposed in this application will adhere to the biosafety recommendations contained in the 5th edition of the Biosafety in Microbiological and Biomedical Laboratories (BMBL) Manual published jointly by the CDC and NIH (relevant text from the BMBL Manual is reproduced below for each pathogen). Samples may be processed in the field in mobile laboratories of the LMA and NFA or in the field stations. This project focuses on two areas of diagnostics: a) field diagnostics using rapid penside tests, and b) more in depth genetic and serological characterization.

Microbiology and Isolation: When the microbiological examination of those samples suggests that a targeted organism may be present, the samples will be transferred to the main laboratory at the LMA for processing, packaging, and cryopreservation. Part II of this project will examine the isolation and characterization of *Coxiella* using the biosafety recommendations for the targeted bacteria (From the fifth edition of the BMBL). All microbiological examination will occur in the future under BSL-3 conditions at the CPHR. This will be handled by implementing a separate biosafety and biosecurity review of this portion of the project after the CPHR BSL-3 laboratory is running and approved for use. Biosecurity: all samples will be kept in locked laboratories and locked refrigerators. Sample logbooks will be maintained and all samples and cultures will be kept under standard security measures as defined by CBEP.

Diagnostics samples containing suspect agents and OIE Standards: BSL-2 practices, containment equipment, and facilities are recommended for activities involving animal's samples and materials of animal origin suspected or known to contain *Coxiella burnetii*. Laboratory personnel should be informed of the possibility of Q-fever when samples are submitted for diagnostic tests See OIE standards located in the attached documents.

Safety Issues: Safety at sample collection sites will be ensured by the use of standard personal protective equipment (PPE) as and where appropriate. The following equipment will be used: Tyvek coveralls, boots (12 in high), N95 respirators, safety goggles, disposable hats, and double gloves (inside pair taped to the sleeves of the coverall). Staff at the collection sites have been using PPE for many years, and are skilled in the safe handling of potentially infectious material. Samples for PCR analysis will be handled appropriately

in Eppendorf tubes and heat inactivated at the earliest feasible time after sample collection and, as a result, the samples will be safe and non-infectious.

	Biosafety Level (Diagnostic Quantities)			
Pathogen	1	2	3	4
Diagnostic sample - blood		X		
Diagnostic sample - milk		X		
Diagnostic sample – swabs		X		
Microbiology of Coxiella (reserved for Part II of this study)			X	

Pathogen	Biosafety Practices	Primary Barriers and Equipment	Facilities and Secondary Barriers
C. burnetii	- Standard Microbiological Practices - Limited and controlled access - Biohazard warning signs - "Sharps" precautions - Biosafety manual / SOP - Decontamination of all waste - Decontamination of laboratory clothing before laundering - Baseline serum	- Class I or II BSCs or other physical containment devices used for all open manipulation of agents - Protective laboratory clothing; gloves; respiratory protection as needed	- Laboratory bench and sink - Autoclave - Physical separation from access corridors - Self-closing, double-door access - Exhaust air not re-circulated - Negative airflow into laboratory

Approximate Budget

Additional details of the budget are in the Form B.

Relevance to DoD Program Objectives

- Knowledge of *Coxiella*: This study will increase the knowledge of the epidemiology of *C. burnetii* in understudied geographic areas of natural and new foci in Georgia and test hypotheses on the environmental conditions that promote *C. burnetii* outbreaks in-country.
- Gainful employment of scientists: This project will provide gainful employment for scientists working with especially dangerous pathogens.

- Transparency and integration: This project will promote transparency and integration of Georgian scientists into the global science community through participation in international conferences and publication of scientific papers in international journals.
- DOD has a significant requirement to establish the Baseline of Pathogenic Organisms in the Environment. The enhanced surveillance program resulting from this project will generate new information on important especially dangerous pathogens which will be mapped and described in detail.

Relationship to Other on-going, planned, and recently completed CBEP Projects

In part, this study will serve as follow-on to the GG-18 project and links well with the ongoing Vector Surveillance studies in Georgia and with future proposed TADR activity projects and future CBR projects in queue for review. In addition, in GG-17, several hundred previously collected animal blood and milk samples could be used on this project for initial testing, training, and evaluation. CBEP encourages work to collect, review, and analyze historical records of CBEP pathogens; and CBEP encourages work related to utilizing the EIDSS-linked database that would allow rapid identification of unusual patterns of clustering of disease anywhere in the country.

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Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-c-0104	METABIOTA	16	

4. TD TITLE	5. TOTAL TD ESTIMATE:
Subject Matter Expertise in Geographic Information Systems (GIS) Modeling and Regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia	HOURS: 520 DOLLARS: $ **$150,000.00**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME (b)(6)
PHONE (b)(6) MAIL: (b)(6)	PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide expertise in geographic information systems (GIS) modeling and regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia in accordance with SOW. Section 4.4, Task 2 and Task 4. This expertise should be provided by a scientist (SME I or SME II) with experience of working with Former Soviet Union (FSU) researchers and should focus on providing subject matter expertise in GIS modeling and regional SNPs for CBEP-funded research projects GG-19, GG-20 and GG-27.

For GG-19, this expertise should include guidance and mentorship of National Center for Disease Control (NCDC) staff on using GIS to determine a risk assessment for exposure to environmental and animal sources of *Francisella tularensis*, and should focus on producing risk assessment maps.

For GG-20, the expert should provide mentorship to Laboratory of Ministry of Agriculture (LMA) and National Food Agency (NFA) personnel on using GIS techniques to manage and visualize (map) the ecological niche and distribution models of *Coxiella burnetii* and conduct advanced spatial and temporal modeling and statistical analysis of datasets.

For GG-27, the expert should aid in the identification and selection of regional loci of *Bacillus anthracis* and the corresponding environmental sampling sites, conduct spatial genetic pattern analysis and risk factor mapping of *B. anthracis* using GIS, aid in the production of GIS models of the geographic distribution of *B. anthracis* across the south Caucasus, and serve as a subject matter expert on regional Single Nucleotide Polymorphisms (SNPs), including a well-established Georgian SNP typing panel. Mentorship activities should focus on providing guidance in stringent metrics and international standards in GIS and SNP data interpretation and analysis to NCDC, LMA and NFA scientists.

It is expected that implementation of this requirement will be approximately 13 weeks worth of effort consisting of (a) 3 x 1 week trips (detailed below), (b) up to 1 week before each trip for preparation activities, (c) up to 1 week after each trip for reporting and follow-up actions, and (d) up to 4 additional weeks of effort for coordination and remote reach-back support. The expert is expected to conduct two trips to Tbilisi, Georgia, to provide on-site mentorship to Georgian colleagues for GG-19, GG-20 and GG-27 research projects. Timing for these trips should be determined based on project needs. The expert is also expected to conduct a third trip to attend the regional GG-27/AJ TAP-11 kick-off meeting in Baku, Azerbaijan in October 2015.

The period of performance for this effort will be from 15 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $150,000 is requested by 4 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation

Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8 and leverages information gleaned from discussions with A&AS contractors. A key assumption for this effort is that the Georgian scientists are generally capable of conducting GIS analyses on their own. It is anticipated that the plan for TD-016 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as SME I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:

From the information provided in Box 8, Metabiota assumes that these projects are ongoing affairs led by a third party. In order to effectively ensure that a GIS SME is available to provide the requested in-country mentoring, the Metabiota PM and PC will, upon approval of the TD, continue to engage relevant DTRA CBEP stakeholders to identify how, where, and when project status updates are communicated (for example, monthly teleconference, weekly email exchanges, etc.). Upon approval and receipt of additional information re: GG 19, 20, and 27, the Metabiota PM and PC will identify a GIS SME and work to establish a subcontract or independent consulting arrangement with the SME. The Metabiota PM, PC, and GIS SME will participate in these communications in order to understand when in-country mentoring activities will be required. The Metabiota PM and PC will work with the GIS SME to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or the appropriate DTRO (Tbilisi or Baku).

Mentoring:

Mentoring will consist of both in-country and remote mentoring. After assessing the need for in-person GIS mentoring, the PM, PC, and GIS SME will work with the project teams to elucidate the specific goals, and requirements of each mentoring request to ensure that the mentoring visit is conducted efficiently and effectively. The GIS SME will work with the PM, PC, and appropriate stakeholders in each respective project to create a list of tasks to be accomplished by the Georgian scientists leading up to the mentoring visit, to create a list of topics for the GIS SME to be prepared to assist with during the mentoring visit, and to facilitate the communication and exchange of any necessary data or concepts both prior to and following each mentoring visit.

Reach-back support:
Based on our understanding of the requirements, Metabiota does not expect to be required to provide primary GIS analysis support to any of the three projects, but does expect the GIS SME to be available to occasiona ly provide remote guidance or limited assistance with data analyses. Through regular communications with the respective project teams Metabiota will be made aware of any additional subject matter expertise requests. The GIS SME will address these needs as they arise.

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Cost, Schedule, Performance, Quality						
Unable to communicate with DTRA CBEP technical POCs	The short turnaround combined with the holiday likely led to the non-response to Metabiota requests for communication and background materials on the three Georgia projects. Therefore, the proposal was developed without sufficient context into the true level of GIS subject matter expertise needed to accomplish project goals. Thus our proposed labor solution may be inadequate, impacting cost. It may also impact schedule, performance, and quality, as we may proceed to identify a SME who is incapable of meeting project requirements in a timely fashion or to the satisfaction of project stakeholders.	5	4	(b)(4); (b)(6)	Upon approval, continue efforts to contact DTRA Technical POCs and all other relevant stakeholders (for example, A&AS). During proposal development Metabiota has researched multiple possible SMEs who could potentially address project requirements.	**Med-High**
Schedule / Performance						
The TD indicates potential travel in October	TD was received on 1 September, and indicates travel for an unspecified window in October, placing Metabiota at risk for not meeting CDRL deadlines. Missing the CCR CDRL deadline may result in travel authorization being denied.	5	5	(b)(4); (b)(6)	Ask DTRA if Metabiota may proceed with project coordination activities sans approval; also ask for possibility of receiving formal exemption of meeting CCR deadlines for this first travel.	**Med-High**

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$123,504.43
1003	MATERIALS	$0.00
1004	ODCs	$1,753.69
1005	TRAVEL	$14,256.50
TOTAL		**$139,514.62**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Expert may be an independent consultants or subcontractor, the Metabiota PM will additionally provide management oversight of the project subcontractors (GIS SME) and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the

acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM and will manage the GIS SME, including all subcontractors, to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline.

The PC will lead coordination with project stakeholders and will coordinate in-country mentorship dates. The PC will participate in regular communications between the project stakeholders and the GIS SME. The PC will coordinate with stakeholders in order to plan and execute logistical arrangements, and drive the coordination required to sufficiently gather the answers to the logistical questions that will arise in the planning and execution of requested travel for mentoring activities.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the GIS SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Subject Matter Expert 2: The SME 2 will serve as the GIS SME. The SME 2 will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project, the needs and expectations of the Georgian scientists, and the GIS subject matter expertise needed. The SME 2 will provide both in-country and remote mentoring as directed by the respective project leads.

Materials
No materials are expected to be procured for this effort.

Other Direct Costs
Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts
Subcontracts will be issued to SMEs, RDAs, and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support the GIS SME to Tbilisi, Georgia for two (2) one-week trips to provide mentoring as needed. Travel is also requested to support the GIS SME to Baku, Azerbaijan for one (1) one-week trip to attend the project kickoff of GG-27/AJ TAP-11. The travel budget represents the estimated amount required; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	123,504.43	9/15/2015	5/15/2016
1003	MATERIALS	$	-	9/15/2015	5/15/2016
1004	ODCs	$	1,753.69	9/15/2015	5/15/2016
1005	TRAVEL	$	14,256.50	9/15/2015	5/15/2016
	TOTAL	**$**	**139,514.62**	9/15/2015	5/15/2016

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ $139,514.62

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ $139,514.62

12a. CURRENT PERIOD OF PERFORMANCE
15 Sep 2015 – 15 May 2016

12b. TD REV PERIOD OF PERFORMANCE
15 Sep 2015 – 15 May 2016

13. CONTRACTOR SIGNATURE AND DATE
Signature:
Date:

14. REGION
EUCOM

15. TECHNICAL POINTS OF CONTACT
(b)(6) Georgia Country Manager
(b)(6) Georgia Country Manager
(b)(6) EUCOM Regional Science Manage
(b)(6)
(b)(6)
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X
(b)(6)
(b)(6)
COR / J3CTB Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

TD-16 is approved. I'm currently on travel, and will forward separately the signed TD and GG proposal docs, once I am able to do so from my computer.

Cheers,

(b)(6)
Email (b)(6)
Mobil

Sent from my iPhone

On Sep 10, 2015, at 12:04 AM, (b)(6) wrote:

(b)(6)

Please find attached our response to TD-016. Of note, I have included an unsigned Word document, due to the imbedded Excel file, and a signed PDF document.

We look forward to any comments and feedback re: this proposal.

Best regards,

(b)(6)
Program Director - AEP
Metabiota, Inc.
emai (b)(6)
Mob
Skyp

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

On 9/1/15, 2:20 PM, (b)(6)
<d (b)(6) >> wrote:

Hi

Please find attached technical direction TD 016 for GIS SME support in Georgia. We are using a new format to capture all of the components of TDs. Your response, in this new format, is requested by COB 4 Sep 2015.
If you feel you cannot submit a completed response in this time frame based on the information provided in the TD or if you have questions about how to use the form, please arrange a call with myself and the Contracting Officer within 24 hours of receipt of this email.

Nothing in this email shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract.
If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with the DTRA CBEP Points of Contact listed in Block 15 of the Technical Direction, with copy to the individuals specified

below and on the Cc line.

Cc: (b)(6)

Deputy Chief Scientist
Cooperative Biological Engagement Program Cooperative Threat Reduction Defense Threat Reduction Agency
Email (b)(6)
Phone
Mobile

<TD-016_Georgia_GIS 2015-09-09 Final.docx> <TD-016_Georgia_GIS 2015-09-09 Final.pdf>

From: (b)(6)
To:
Cc:

Subject: Re: TD-017 Georgia Grantsmanship SME
Date: Thursday, September 17, 2015 10:32:59 PM
Attachments: CTR-CBEP_AEP_TD-017_GG_Grantmanship_SME_150917.docx
CTR-CBEP_AEP_TD-017_GG_Grantmanship_SME_150917.pdf

(b)(6)

Please find attached our response to TD-017. Of note, I have included an unsigned Word document, due to the imbedded Excel file, and a signed PDF Document.

We look forward to any comments and feedback re: this proposal.

Best regards,

(b)(6)
Program Director - AEP
Metabiota, Inc.
email (b)(6)
Mobi
Skype

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On 9/14/15, 10:38 AM, (b)(6) I CIV DTRA J3-7 (US)" (b)(6) wrote:

>
>Please find attached TD-017 for grantsmanship support and mentorship in
>Georgia. Your response is requested by 17 September 2015.
>
>Cheers,

(b)(6)

>Deputy Chief Scientist
>Cooperative Biological Engagement Program
>Cooperative Threat Reduction

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a. TD NUMBER	3b. REV
HDTRA1-14-C-0104	METABIOTA	17	

4. TD TITLE	5. TOTAL TO ESTIMATE
Grantsmanship Support and Mentorship in Georgia	HOURS 520 DOLLARS $ $150,000.00

6. CONTRACTING OFFICER REPRESENTATIVE	7. CONTRACTOR POC.
NAME (b)(6)	NAME (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHONE (b)(6) EMAIL (b)(6)

Commented [BCSC1]: Exemption 6 USG personnel names and contact info

8. DESCRIPTION OF TD (NOT

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide expertise in grantsmanship at the Richard G. Lugar Center for Public Health Research and at the Laboratory of the Ministry of Agriculture in Georgia in accordance with SOW, Section 4.3, Task 3 and Section 4.5, Task 5. This expertise should be provided by a scientist (SME I or SME II) with experience in proposal development mentoring and should provide guidance in preparing and submitting grant proposals to the DTRA Broad Agency Announcement (BAA) or other competitive research solicitations. More specifically, the mentor should focus on providing mentorship in the following areas. (a) assist National Center for Disease Control (NCDC) researchers with accurate development of direct and indirect costs as part of the proposal preparation. (b) assist Laboratory of Ministry of Agriculture (LMA) personnel with proposal development and submission processes to include development of scientific hypotheses, analysis of research data, drafting of white papers and full proposals, and reviewing proposal evaluations and recommendations.

It is expected that implementation of this requirement will require approximately 13 weeks of effort consisting of 2 x 1 week trips to Tbilisi, Georgia, with additional time allotted for pre- and post-trip activities and follow-up actions, in order to provide on-site mentorship to Georgian colleagues. Timing for these trips should be determined based on project needs. An additional 7 weeks of effort is anticipated for coordination, document reviews, and remote reach-back support.

The period of performance for this effort will be from 21 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $150,000 is requested by 17 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

Proposal Development & Initiation:
Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. A key assumption for this effort is that the Georgian scientists have their own research ideas which can be shaped into proposals. A second key assumption is that Metabiota Subject Matter Experts providing grantsmanship support will **not** be the primary drafters of any white papers or full proposals, but rather will only provide assistance in drafting said white papers and proposals. A third key assumption is that the Georgian scientists will not require any assistance in analysis of any data which may be presented in the proposals as preliminary work. It is anticipated that the plan for TD-017 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) 1) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:
From the information provided in Box 8, Metabiota assumes that there are several relevant POCs at both NCDC and LMA which will be involved in the grantsmanship efforts. The Metabiota PM and PC will, upon approval of the TD, engage relevant DTRA CBEP and Lugar Center stakeholders to begin understanding what efforts they would like to work on. Upon approval and receipt of additional information, the Metabiota PM and PC will identify a grantsmanship subject matter expert (billed as SME 2) and work to either onboard them as a Metabiota employee or establish a subcontract or independent consulting arrangement with the VS. The Metabiota PM, PC, and SME 2 will participate in communications with stakeholders at NCDC and LMA in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the SME 2 to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO-Tbilisi.

In-Country Grantsmanship Mentoring
Mentoring will consist of in-country and remote mentoring. Based on our understanding of the requirements, Metabiota does not expect to be required to provide data analysis support to the NCDC or LMA scientists. In order to ensure the success of the in-country mentoring visits, the PM, PC, and SME 2 will work with the POCs at NCDC and LMA to establish a list of deliverables to be provided to Metabiota prior to any in-country mentoring. These deliverables may include budgetary data, drafts of proposed plans and SOPs, drafts of white papers and full proposals, and analyses of preliminary data complete with methodology. The PM and PC will maintain regular communications with the SME 2 to ensure that the SME 2 has all required resources for mentoring. After assessing the need for in-country mentoring, the SME 2 will implement the mentoring work plans, only assisting with actual proposal writing in cases of last resort.

Reach-back Support / Remote Mentoring
Based on our understanding of the requirements, Metabiota does not expect to be required to provide primary authorship support to any proposals but does expect the SME 2 to be available to occasionally provide remote editorial guidance and limited assistance with drafting of select passages. Through regular communications with the respective project teams, Metabiota will be made aware of any additional subject matter expertise requests. The SME 2 will address these needs as they arise.

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
			Cost			
Non response of DTRA CBEP technical POCs	The short turnaround led to only a brief communication with A&AS regarding clarification of requirements. Thus our proposed labor solution may be inadequate, impacting cost	5	4	(b)(4); (b)(6)	Upon approval, continue efforts to contact DTRA Technical POCs and all other relevant stakeholders	**Med-High**
			Performance			
Scientific research topics	We have no knowledge of what the breadth of scientific research topics is that NCOC and LMA are interested in pursuing. Funding probabilities are already low at most organizations, and while much of grantsmanship can be generalized, domain-specific knowledge can be key in some instances. Without knowing in advance what topics will be proposed, it seems highly likely that grantsmanship mentoring will not operate at maximum effectiveness.	5	3	**Med-High**	Identify grantsmanship SME with broad experiences in the biological sciences	**Med-High**

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN)

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$125,669
1003	MATERIALS	$1,842
1004	ODCs	$948
1005	TRAVEL	$8,273
TOTAL		**$136,732.08**

9c. TD SOLUTION BASIS OF ESTIMATE - DESCRIPTION (NOT TO EXCEED 2 PAGES)

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Expert may be an independent consultants or subcontractor, the Metabiota PM will additionally provide management oversight of the project subcontractors (microbiology SME) and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the SME 2, to include leading regular coordination calls with the SME 2, participating in regular communications between the proposal stakeholders and the grantsmanship SME, and coordinating with the SME 2 to ensure all project requirements and deliverables are met and the program remains within scope, budget,

and timeline. The PC will aid the PM and SME 2 in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the microbiology SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Subject Matter Expert 2: The SME 2 will serve as the grantsmanship SME. The SME 2 will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each proposal, the needs and expectations of the Georgian scientists, and the grantsmanship assistance needed. The SME 2 will provide mentoring as directed by the respective project leads.

Materials

We have budgeted for the purchase of up to 50 scientific journal articles for use in supporting the proposal writing efforts at a projected average cost of $35 per journal article.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts

Subcontracts will be issued to the SME 2 and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested to support the deployment of the SME 2 to Tbilisi, Georgia for two (2) one-week deployments. No additional travel is projected based on the requirements provided. The travel budget represents the estimated amount required; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL)

11a. FUNDS AUTHORIZED FOR THIS TD REV

$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $0

12a. CURRENT PERIOD OF PERFORMANCE

21 Sep 2015 - 15 May 2016

12b. TD REV PERIOD OF PERFORMANCE

21 Sep 2015 – 15 May 2016

13. CONTRACTOR SIGNATURE AND DATE

Signature _____

Date

14. REGION

EUCOM

15. TECHNICAL POINTS OF CONTACT

Georgia Country Manager (b)(6)

(b)(6)

(b)(6)

(b)(6)

EUCOM Regional Science Manager (b)(6)

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

COR / TCTE Deputy Chief Scientist

Commented [BCSC3]: Exemption 6
USG personnel name and role

Commented [BCSC2]: Exemption 6
USG personnel names and contact info

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	17	

4. TD TITLE	5. TOTAL TD ESTIMATE:
Grantsmanship Support and Mentorship in Georgia	HOURS ____520_____ DOLLARS: $ ____**$150,000.00**_____

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE (b)(6) EMAIL: (b)(6)	PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide expertise in grantsmanship at the Richard G. Lugar Center for Public Health Research and at the Laboratory of the Ministry of Agriculture in Georgia in accordance with SOW, Section 4.3, Task 3 and Section 4.5, Task 5. This expertise should be provided by a scientist (SME I or SME II) with experience in proposal development mentoring and should provide guidance in preparing and submitting grant proposals to the DTRA Broad Agency Announcement (BAA) or other competitive research solicitations. More specifically, the mentor should focus on providing mentorship in the following areas: (a) assist National Center for Disease Control (NCDC) researchers with accurate development of direct and indirect costs as part of the proposal preparation, (b) assist Laboratory of Ministry of Agriculture (LMA) personnel with proposal development and submission processes to include development of scientific hypotheses, analysis of research data, drafting of white papers and full proposals, and reviewing proposal evaluations and recommendations.

It is expected that implementation of this requirement will require approximately 13 weeks of effort consisting of 2 x 1 week trips to Tbilisi, Georgia, with additional time allotted for pre- and post-trip activities and follow-up actions, in order to provide on-site mentorship to Georgian colleagues. Timing for these trips should be determined based on project needs. An additional 7 weeks of effort is anticipated for coordination, document reviews, and remote reach-back support.

The period of performance for this effort will be from 21 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $150,000 is requested by 17 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation:

Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. A key assumption for this effort is that the Georgian scientists have their own research ideas which can be shaped into proposals. A second key assumption is that Metabiota Subject Matter Experts providing grantsmanship support will **not** be the primary drafters of any white papers or full proposals, but rather will only provide assistance in drafting said white papers and proposals. A third key assumption is that the Georgian scientists will not require any assistance in analysis of any data which may be presented in the proposals as preliminary work. It is anticipated that the plan for TD-017 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) 1) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:

From the information provided in Box 8, Metabiota assumes that there are several relevant POCs at both NCDC and LMA which will be involved in the grantsmanship efforts. The Metabiota PM and PC will, upon approval of the TD, engage relevant DTRA CBEP and Lugar Center stakeholders to begin understanding what efforts they would like to work on. Upon approval and receipt of additional information, the Metabiota PM and PC will identify a grantsmanship subject matter expert (billed as SME 2) and work to either onboard them as a Metabiota employee, or establish a subcontract or independent consulting arrangement with the VS. The Metabiota PM, PC, and SME 2 will participate in communications with stakeholders at NCDC and LMA in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the SME 2 to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO-Tbilisi.

In-Country Grantsmanship Mentoring

Mentoring will consist of in-country and remote mentoring. Based on our understanding of the requirements, Metabiota does not expect to be required to provide data analysis support to the NCDC or LMA scientists. In order to ensure the success of the in-country mentoring visits, the PM, PC, and SME 2 will work with the POCs at NCDC and LMA to establish a list of deliverables to be provided to Metabiota prior to any in-country mentoring. These deliverables may include budgetary data, drafts of proposed plans and SOPs, drafts of white papers and full proposals, and analyses of preliminary data complete with methodology. The PM and PC will maintain regular communications with the SME 2 to ensure that the SME 2 has all required resources for mentoring. After assessing the need for in-country mentoring, the SME 2 will implement the mentoring work plans, only assisting with actual proposal writing in cases of last resort.

Reach-back Support / Remote Mentoring:

Based on our understanding of the requirements, Metabiota does not expect to be required to provide primary authorship support to any proposals, but does expect the SME 2 to be available to occasionally provide remote editorial guidance and limited assistance with drafting of select passages. Through regular communications with the respective project teams, Metabiota will be made aware of any additional subject matter expertise requests. The SME 2 will address these needs as they arise.

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
			Cost			
Non-response of DTRA CBEP technical POCs	The short turnaround led to only a brief communication with A&AS regarding clarification of requirements. Thus our proposed labor solution may be inadequate, impacting cost.	5	4	(b)(4); (b)(6)	Upon approval, continue efforts to contact DTRA Technical POCs and all other relevant stakeholders.	**Med-High**
			Performance			
Scientific research topics	We have no knowledge of what the breadth of scientific research topics is that NCDC and LMA are interested in pursuing. Funding probabilities are already low at most organizations, and while much of grantsmanship can be generalized, domain-specific knowledge can be key in some instances. Without knowing in advance what topics will be proposed, it seems highly likely that grantsmanship mentoring will not operate at maximum effectiveness.	5	3	**Med-High**	Identify grantsmanship SME with broad experiences in the biological sciences.	**Med-High**

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN)

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$125,669
1003	MATERIALS	$1,842
1004	ODCs	$948
1005	TRAVEL	$8,273
TOTAL		**$136,732.08**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Expert may be an independent consultants or subcontractor, the Metabiota PM will additionally provide management oversight of the project subcontractors (microbiology SME) and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipat ng, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the SME 2, to include leading regular coordination calls with the SME 2, participating in regular communications between the proposal stakeholders and the grantsmanship SME, and coordinating with the SME 2 to ensure all project requirements and deliverables are met and the program remains within scope, budget,

and timeline. The PC will aid the PM and SME 2 in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the microbiology SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Subject Matter Expert 2: The SME 2 will serve as the grantsmanship SME. The SME 2 will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each proposal, the needs and expectations of the Georgian scientists, and the grantsmanship assistance needed. The SME 2 will provide mentoring as directed by the respective project leads.

Materials

We have budgeted for the purchase of up to 50 scientific journal articles for use in supporting the proposal writing efforts at a projected average cost of $35 per journal article.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts

Subcontracts will be issued to the SME 2 and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested to support the deployment of the SME 2 to Tbilisi, Georgia for two (2) one-week deployments. No additional travel is projected based on the requirements provided. The travel budget represents the estimated amount required; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $0

12a. CURRENT PERIOD OF PERFORMANCE

21 Sep 2015 15 May 2016

12b. TD REV PERIOD OF PERFORMANCE

21 Sep 2015 – 15 May 2016

13. CONTRACTOR SIGNATURE AND DATE

Signature: (b)(6)

Date: 17 September 2015

14. REGION

EUCOM

15. TECHNICAL POINTS OF CONTACT

Georgia Country Manage (b)(6) (b)(6)

Georgia Country Manage (b)(6) (b)(6)

EUCOM Regional Science Manager (b)(6) (b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

>Defense Threat Reduction Agency
>Email (b)(6)
>Phone
>Mobile
>

From: (b)(6)
To:
Cc:

Subject: RE: TD-017 Georgia Grantsmanship SME
Date: Wednesday, September 23, 2015 4:39:38 PM
Attachments: CTR-CBEP_AEP_TD-017_GG_Grantmanship_SME_150917_approved.pdf

H (b)(6)

Please find attached, the approved TD-017 with ceiling price of $136,732 and a PoP of 9/23/2015-5/15/2016. Every effort should be made to perform the work specified in the Technical Directive within the estimated ceiling price. Metabiota should notify the Contracting Officer in writing whenever it has reason to believe the costs for this Technical Directive are expected to exceed the established ceiling price.

Cheers,

(b)(6)

Email (b)(6)
Phone
Mobil

-----Original Message-----
From (b)(6)
Sent: Thursday, September 17, 2015 10:33 PM
To (b)(6)
Cc:
DT
CI
Subject: Re: TD-017 Georgia Grantsmanship SME

(b)(6)

Please find attached our response to TD-017. Of note, I have included an unsigned Word document, due to the imbedded Excel file, and a signed PDF Document.

We look forward to any comments and feedback re: this proposal.

Best regards,

(b)(6)

Program Director - AEP
Metabiota, Inc.
email (b)(6)
Mobil
Skype

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	17	

4. TD TITLE	5. TOTAL TD ESTIMATE:
Grantsmanship Support and Mentorship in Georgia	HOURS: 520 DOLLARS: $ **$150,000.00**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)	PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide expertise in grantsmanship at the Richard G. Lugar Center for Public Health Research and at the Laboratory of the Ministry of Agriculture in Georgia in accordance with SOW, Section 4.3, Task 3 and Section 4.5, Task 5. This expertise should be provided by a scientist (SME I or SME II) with experience in proposal development mentoring and should provide guidance in preparing and submitting grant proposals to the DTRA Broad Agency Announcement (BAA) or other competitive research solicitations. More specifically, the mentor should focus on providing mentorship in the following areas: (a) assist National Center for Disease Control (NCDC) researchers with accurate development of direct and indirect costs as part of the proposal preparation, (b) assist Laboratory of Ministry of Agriculture (LMA) personnel with proposal development and submission processes to include development of scientific hypotheses, analysis of research data, drafting of white papers and full proposals, and reviewing proposal evaluations and recommendations.

It is expected that implementation of this requirement will require approximately 13 weeks of effort consisting of 2 x 1 week trips to Tbilisi, Georgia, with additional time allotted for pre- and post-trip activities and follow-up actions, in order to provide on-site mentorship to Georgian colleagues. Timing for these trips should be determined based on project needs. An additional 7 weeks of effort is anticipated for coordination, document reviews, and remote reach-back support.

The period of performance for this effort will be from 21 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $150,000 is requested by 17 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation:

Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. A key assumption for this effort is that the Georgian scientists have their own research ideas which can be shaped into proposals. A second key assumption is that Metabiota Subject Matter Experts providing grantsmanship support will not be the primary drafters of any white papers or full proposals, but rather will only provide assistance in drafting said white papers and proposals. A third key assumption is that the Georgian scientists will not require any assistance in analysis of any data which may be presented in the proposals as preliminary work. It is anticipated that the plan for TD-017 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) 1) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:

From the information provided in Box 8, Metabiota assumes that there are several relevant POCs at both NCDC and LMA which will be involved in the grantsmanship efforts. The Metabiota PM and PC will, upon approval of the TD, engage relevant DTRA CBEP and Lugar Center stakeholders to begin understanding what efforts they would like to work on. Upon approval and receipt of additional information, the Metabiota PM and PC will identify a grantsmanship subject matter expert (billed as SME 2) and work to either onboard them as a Metabiota employee, or establish a subcontract or independent consulting arrangement with the VS. The Metabiota PM, PC, and SME 2 will participate in communications with stakeholders at NCDC and LMA in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the SME 2 to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO Tbilisi.

In-Country Grantsmanship Mentoring

Mentoring will consist of in-country and remote mentoring. Based on our understanding of the requirements, Metabiota does not expect to be required to provide data analysis support to the NCDC or LMA scientists. In order to ensure the success of the in-country mentoring visits, the PM, PC, and SME 2 will work with the POCs at NCDC and LMA to establish a list of deliverables to be provided to Metabiota prior to any in-country mentoring. These deliverables may include budgetary data, drafts of proposed plans and SOPs, drafts of white papers and full proposals, and analyses of preliminary data complete with methodology. The PM and PC will maintain regular communications with the SME 2 to ensure that the SME 2 has all required resources for mentoring. After assessing the need for in-country mentoring, the SME 2 will implement the mentoring work plans, only assisting with actual proposal writing in cases of last resort.

Reach-back Support / Remote Mentoring:

Based on our understanding of the requirements, Metabiota does not expect to be required to provide primary authorship support to any proposals, but does expect the SME 2 to be available to occasionally provide remote editorial guidance and limited assistance with drafting of select passages. Through regular communications with the respective project teams, Metabiota will be made aware of any additional subject matter expertise requests. The SME 2 will address these needs as they arise.

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
			Cost			
Non-response of DTRA CBEP technical POCs	The short turnaround led to only a brief communication with A&AS regarding clarification of requirements. Thus our proposed labor solution may be inadequate, impacting cost.	5	4	(b)(4); (b)(6)	Upon approval, continue efforts to contact DTRA Technical POCs and all other relevant stakeholders.	**Med-High**
			Performance			
Scientific research topics	We have no knowledge of what the breadth of scientific research topics is that NCDC and LMA are interested in pursuing. Funding probabilities are already low at most organizations, and while much of grantsmanship can be generalized, domain-specific knowledge can be key in some instances. Without knowing in advance what topics will be proposed, it seems highly likely that grantsmanship mentoring will not operate at maximum effectiveness.	5	3	**Med-High**	Identify grantsmanship SME with broad experiences in the biological sciences.	**Med-High**

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$125,669
1003	MATERIALS	$1,842
1004	ODCs	$948
1005	TRAVEL	$8,273
TOTAL		**$136,732**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES)

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity

As our Subject Matter Expert may be an independent consultants or subcontractor. the Metabiota PM will additionally provide management oversight of the project subcontractors (microbiology SME) and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipat ng, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the SME 2, to include leading regular coordination calls with the SME 2, participating in regular communications between the proposal stakeholders and the grantsmanship SME, and coordinating with the SME 2 to ensure all project requirements and deliverables are met and the program remains within scope, budget,

and timeline. The PC will aid the PM and SME 2 in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the microbiology SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Subject Matter Expert 2: The SME 2 will serve as the grantsmanship SME. The SME 2 will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each proposal the needs and expectations of the Georgian scientists, and the grantsmanship assistance needed. The SME 2 will provide mentoring as directed by the respective project leads.

Materials

We have budgeted for the purchase of up to 50 scientific journal articles for use in supporting the proposal writing efforts at a projected average cost of $35 per journal article.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts

Subcontracts will be issued to the SME 2 and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested to support the deployment of the SME 2 to Tbilisi, Georgia for two (2) one-week deployments. No additional travel is projected based on the requirements provided. The travel budget represents the estimated amount required; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	125,669	9/23/2015	5/15/2016
1003	MATERIALS	$	1,842	9/23/2015	5/15/2016
1004	ODCs	$	948	9/23/2015	5/15/2016
1005	TRAVEL	$	8,273	9/23/2015	5/15/2016
	TOTAL	**$**	**136,732**	9/23/2015	5/15/2016

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $136,732

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $136,732

12a. CURRENT PERIOD OF PERFORMANCE

23 Sep 2015 –15 May 2016

12b. TD REV PERIOD OF PERFORMANCE

23 Sep 2015 – 15 May 2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:

Date:

14. REGION

EUCOM

15. TECHNICAL POINTS OF CONTACT

Georgia Country Manager, (b)(6)
(b)(6)

Georgia Country Manager, (b)(6)
(b)(6)

EUCOM Regional Science Manage (b)(6)
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X
(b)(6)
COR / JSCTB Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

On 9/14/15, 10:38 AM, [redacted]

[redacted]

>H[redacted]
>
>Please find attached TD-017 for grantsmanship support and mentorship in
>Georgia. Your response is requested by 17 September 2015.
>
>Cheers,

[redacted]

>Deputy Chief Scientist
>Cooperative Biological Engagement Program Cooperative Threat Reduction
>Defense Threat Reduction Agency
>Email[redacted]
>Phone[redacted]
>Mobil[redacted]
>
>

From: (b)(6)
To:
Cc:

Subject: RE: TD-018 Georgia Genomics Visiting Scientist/Scientific Mentor
Date: Wednesday, September 23, 2015 4:40:22 PM
Attachments: CTR-CBEP_AEP_TD-018_GG_Genomics VS-SM 150917_approval.pdf

H (b)(6)

Please find attached, the approved TD-018 with ceiling price of $384,436 and a PoP of 9/23/2015-5/15/2016. Every effort should be made to perform the work specified in the Technical Directive within the estimated ceiling price. Metabiota should notify the Contracting Officer in writing whenever it has reason to believe the costs for this Technical Directive are expected to exceed the established ceiling price.

Cheers
(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Thursday, September 17, 2015 8:07 PM
To: (b)(6)
Cc:
DT
CI
Subject: Re: TD-018 Georgia Genomics Visiting Scientist/Scientific Mentor

(b)(6)

Please find attached our response to TD-018. Of note, I have included an unsigned Word document, due to the imbedded Excel file, and a signed PDF document.

We look forward to any comments and feedback re: this proposal.

Best regards,

(b)(6)

Program Director - AEP
Metabiota, Inc.
emai (b)(6)
Mob
Skyp

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	18	

4. TD TITLE	5. TOTAL TD ESTIMATE:
On-site Expertise in Genomic Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia	HOURS: 1432 DOLLARS: $ **$380,000.00**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)	PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide on-site expertise in genomic research activities at the Richard G. Lugar Center for Public Health Research in Georgia in accordance with SOW Section 4.2, Task 2, Section 4.4, Task 4, Section 4.5. Task 5, and Section 4.6. Task 6. This expertise can be provided by a visiting scientist and/or scientific mentor and should focus on providing subject matter expertise in genomic research for CBEP-funded research projects or related follow-on work conducted at the Lugar Center. This expertise should include guidance and mentorship on designing and implementing experimental procedures, troubleshooting methodology and data analysis methods for on-going research projects at the Lugar Center. Additionally, the expert should assist by providing guidance and mentorship in operations of the Genomics Center at the Lugar Center.

Mentorship activities should focus on providing guidance in stringent metrics and international standards in genomic data collection, analysis and interpretation. Additionally, on-site personnel should provide mentorship to Georgian colleagues in comprehending and applying core concepts and methodologies in comparative genomics for use in building applied biosurveillance research proposals. The research mentor should assist Georgian researchers with manuscript preparation of CBEP-funded research in genomics for submission to peer-reviewed scientific journals. This on-site interaction should facilitate motivation towards independent knowledge-building inquiry and critical thinking skills needed for future sustainable research.

The period of performance for this effort will be from 21 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $380,000 is requested by 17 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation:

Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. A key assumption for this effort is that the Georgian scientists are generally capable of conducting genomics and bioinformatics analyses on their own but that the requested support personnel will occasionally be asked to directly perform genomic and bioinformatics analyses. A second key assumption for this effort is that it is expected to be a full-time expat position. It is anticipated that the plan for TD-018 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:

From the information provided in Box 8. Metabiota assumes that the unspecified CBEP-funded research projects are ongoing affairs led by third parties. In order to effectively ensure that an appropriate genomics subject matter expert (genomics SME, billed as a Visiting Scientist/VS) is available to provide the requested mentoring, the Metabiota PM and PC will, upon approval of the TD, continue to engage relevant DTRA CBEP and Lugar Center stakeholders to identify how, where, and when project status updates are communicated (for example, monthly teleconferences, weekly email exchanges, etc.) and what the onboarding and daily requirements are for working at the Lugar Center. Upon approval and receipt of additional information, the Metabiota PM and PC will identify a VS and work to either onboard them as a Metabiota employee, or establish a subcontract or independent consulting arrangement with the VS. The Metabiota PM, PC, and VS will participate in project communications in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the VS to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO-Tbilisi.

Mentoring and Performance of both Genomics and Bioinformatics Analyses and Operational Oversight of the Genomics Center:

Mentoring will consist of in-country mentoring. Based on our understanding of the requirements, Metabiota does not expect to be required to provide primary genomics analysis support to the various projects being conducted at the Lugar Center. The PM and PC will maintain regular communications with the VS to ensure that the VS has all required resources for mentoring. After assessing the need for genomics mentoring, the VS will work with the PM, PC, and other appropriate stakeholders to develop mentoring work plans. The VS will then implement the mentoring work plans, only assisting with actual analyses and scientific writing when necessary. Additionally, the VS will provide oversight over the operations of the genomics center. The VS will work with Lugar Center POCs to identify candidates for mentorship in operating the genomics center, and work with the PM, PC, and Lugar Center stakeholders to develop and execute a strategy for developing these candidates' abilities to operate the genomic center without guidance.

Risk Management:

In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to

include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix:

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
			Cost, Schedule, Performance, Quality			
Non-response of DTRA CBEP technical POCs	The short turnaround led to only a brief communication with A&AS regarding clarification of requirements and background materials. Thus our proposed labor solution may be inadequate, impacting cost. It may also impact schedule, performance, and quality, as we may proceed to identify a SME who is incapable of meeting project requirements in a timely fashion or to the satisfaction of project stakeholders.	5	4	(b)(4); (b)(6)	Upon approval, continue efforts to contact DTRA Technical POCs and all other relevant stakeholders (for example A&AS). During proposal development Metabiota has researched multiple possible SMEs who could potentially address project requirements.	**Med-High**
			Cost			
SME identification	We assume that an appropriate VS/SM cannot be located who already lives in Georgia (or is a Georgian living elsewhere) and have thus built in time to get the VS/SM onboarded and over to Georgia. Should a VS/SM be identified who does not require the onboarding process (travel trainings, submission of documents) mentorship may begin sooner, and drive up total labor costs beyond those projected.	3	5	**Med-High**	Notify DTRA as soon as possible as to what the projected date will be for hitting 75% and exhaustion of funds on CLIN1001 for this effort.	**Med-High**
			Schedule / Performance			
Travel requirements	We assume that an appropriate VS/SM cannot be located who already lives in Georgia (or is a Georgian living elsewhere) and have thus built in time to get the VS/SM onboarded and over to Georgia. If mentorship needs are required prior to late November, it may be difficult to meet those needs unless a VS/SM is identified who is already resident to Georgia.	3	5	**Med-High**	Clarify travel requirements for extended TDY postings with DTRA, and ask for an exemption to 45-day window if it still holds.	**Med-High**

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$361,460
1003	MATERIALS	$4,579
1004	ODCs	$14,180
1005	TRAVEL	$4,217
TOTAL		**$384,436**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES)

Labor

Costs for direct labor to support this activity is required for the following personnel:

All phases:

Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of

DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Expert may be an independent consultant or subcontractor, the Metabiota PM will additionally provide management oversight of the genomics SME and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipat ng, managing and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the genomics SME, to include leading regular coordination calls with the genomics SME, participating in regular communications between the project stakeholders and the genomics SME, and coordinating with the genomics SME to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline. The PC will aid the PM and VS in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the genomics SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Project Coordination & Mentorship phases only:
Visiting Scientist: The VS will serve as the genomics SME. The VS will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project, the needs and expectations of the Georgian scientists, and the genomics subject matter expertise needed. The VS will provide mentoring as directed by the respective project leads. The VS will also provide oversight and management of the Genomics Center at the Lugar Center.

Materials
We expect to procure a modern laptop capable of running the same genomics and bioinformatics software being used at the Lugar Center. We also will need to procure the appropriate bioinformatics software and standard productivity software as well. As we have not received information detailing the TD-specific items, we have inserted placeholder numbers here.

Other Direct Costs
Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts
Subcontracts will be issued to the VS and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support the deployment of the VS to Tbilisi, Georgia for the initial deployment travel and final return. No additional travel is projected based on the requirements provided The travel budget represents the estimated amount required: precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable. Also of note, lodging at GSA rates for Tbilisi, Georgia have included to this budget. It is assumed that the TBD VS will require some time to identify long term lodging (length of assignment), which would by covered by his expat uplift.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	361,460	9/23/2015	5/15/2016
1003	MATERIALS	$	4,579	9/23/2015	5/15/2016
1004	ODCs	$	14,180	9/23/2015	5/15/2016
1005	TRAVEL	$	4,217	9/23/2015	5/15/2016
	TOTAL	**$**	**384,436**	9/23/2015	5/15/2016

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ **$384,436**	21 Sep 2015 –15 May 2016	Signature:
11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:	12b. TD REV PERIOD OF PERFORMANCE	Date:
$ **$384,436**	21 Sep 2015 – 15 May 2016	

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM	Georgia Country Manager, (b)(6) (b)(6) Georgia Country Manager, (b)(6) (b)(6) EUCOM Regional Science Manager (b)(6) (b)(6)	X (b)(6) (b)(6) COR / J3CTB Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

On 9/14/15, 10:38 AM [redacted]

>H [redacted]
>
>Please find attached TD-018 for a genomics visiting scientist or
>scientific mentor at the Richard Lugar Center for Public Health
>Research in Georgia. Your response is requested by 17 September 2015.
>
>Cheers,

[redacted]
>Deputy Chief Scientist
>Cooperative Biological Engagement Program Cooperative Threat Reduction
>Defense Threat Reduction Agency
>Email: [redacted]
>Phone
>Mobil
>
>

From: (b)(6)
To:
Cc:

Subject: RE: TD-019 Georgia Microbiology Vistity Scientist/Scientific Mentor
Date: Wednesday, September 23, 2015 4:40:34 PM
Attachments: CTR-CBEP_AEP_TD-019_GG Microbiology VS-SM 150917_approved.pdf

H (b)(6)

Please find attached, the approved TD-019 with ceiling price of $382,331 and a PoP of 9/23/2015-5/15/2016. Every effort should be made to perform the work specified in the Technical Directive within the estimated ceiling price. Metabiota should notify the Contracting Officer in writing whenever it has reason to believe the costs for this Technical Directive are expected to exceed the established ceiling price.

Cheers,

(b)(6)

Email (b)(6)
Phone:
Mobile

-----Original Message-----
From (b)(6)
Sent: Thursday, September 17, 2015 8:10 PM
To: (b)(6)
Cc:
DTR
CIV
Subject: Re: TD-019 Georgia Microbiology Vistity Scientist/Scientific Mentor

(b)(6)

Please find attached our response to TD-019. Of note, I have included an unsigned Word document, due to the imbedded Excel file, and a signed PDF document.

We look forward to any comments and feedback re: this proposal.

Best regards,

(b)(6)

Program Director - AEP
Metabiota, Inc.
email (b)(6)
Mobil
Skype

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	19	

4. TD TITLE	5. TOTAL TD ESTIMATE:
On-site Expertise in Microbiology Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia	HOURS: 1432 DOLLARS: $ **$380,000.00**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)	PHON EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide on-site expertise in microbiology research activities at the Richard G. Lugar Center for Public Health Research in Georgia in accordance with SOW Section 4.2. Task 2, Section 4.4. Task 4, Section 4.5, Task 5, and Section 4.6. Task 6. This expertise can be provided by a visiting scientist and/or scientific mentor and should focus on providing subject matter expertise in microbial research for CBEP-funded research projects conducted at the Lugar Center. The expertise should include guidance and mentorship on designing and implementing experimental procedures, troubleshooting methodology, and analyzing data for on-going research projects at the Lugar Center. The expert should provide technical and scientific assistance in the conduct of research projects and implementation of new diagnostics, new technology and sustainability initiatives. Additionally, the expert should assist to improve communications and integration between Georgian institutes and with international agencies collaborating on Lugar Center research efforts.

Mentorship activities should focus on providing guidance in stringent metrics and international standards in data collection, analysis and data interpretation. Additionally, the research mentor should assist Georgian researchers with manuscript preparation of CBEP-funded research for submission to peer-reviewed scientific journals. This on-site interaction should facilitate motivation towards independent knowledge-building inquiry and critical thinking skills needed for future sustainable research.

The period of performance for this effort will be from 21 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $380,000 is requested by 17 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation:

Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. A key assumption for this effort is that the Georgian scientists are generally capable of conducting microbiological analyses on their own but that the requested support personnel will occasionally be asked to directly perform microbiological analyses. A second key assumption for this effort is that it is expected to be a full-time expat position. It is anticipated that the plan for TD-019 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:

From the information provided in Box 8, Metabiota assumes that the unspecified CBEP-funded research projects are ongoing affairs led by third parties. In order to effectively ensure that an appropriate microbiology subject matter expert (microbiology SME, billed as a Visiting Scientist/VS) is available to provide the requested mentoring, the Metabiota PM and PC will, upon approval of the TD, continue to engage relevant DTRA CBEP and Lugar Center stakeholders to identify how, where, and when project status updates are communicated (for example, monthly teleconference, weekly email exchanges, etc.) and what the onboarding and daily requirements are for working at the Lugar Center. Upon approval and receipt of additional information, the Metabiota PM and PC will identify a VS and work to either onboard them as a Metabiota employee, or establish a subcontract or independent consulting arrangement with the VS. The Metabiota PM, PC, and VS will participate in project communications in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the VS to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO-Tbilisi.

Mentoring and Performance of Microbiological Research:

Mentoring will be conducted in-country based on our understanding of the requirements. Metabiota does not expect to be required to provide primary microbiological analysis support to the various projects being conducted at the Lugar Center. The PM and PC will maintain regular communications with the VS to ensure that the VS has all required resources for mentoring. After assessing the need for microbiology mentoring, the VS will work with the PM, PC, and other appropriate stakeholders to develop mentoring work plans. The VS will then implement the mentoring work plans, only assisting with actual analyses and scientific writing when necessary. Additionally, the VS will provide oversight over the operations of the genomics center. The VS will work with Lugar Center POCs to identify candidates for mentorship in operating the genomics center, and work with the PM and PC to develop a strategy for developing these candidates' abilities to operate the genomic center without guidance.

Risk Management:

In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to

include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
			Cost, Schedule, Performance, Quality			
Non-response of DTRA CBEP technical POCs	The short turnaround led to only a brief communication with A&AS regarding clarification of requirements and background materials. Thus our proposed labor solution may be inadequate, impacting cost. It may also impact schedule, performance, and quality, as we may proceed to identify a SME who is incapable of meeting project requirements in a timely fashion or to the satisfaction of project stakeholders.	5	4	(b)(4); (b)(6)	Upon approval, continue efforts to contact DTRA Technical POCs and all other relevant stakeholders (for example A&AS). During proposal development Metabiota has researched multiple possible SMEs who could potentially address project requirements.	**Med-High**
			Cost			
SME identification	We assume that an appropriate VS/SM cannot be located who already lives in Georgia (or is a Georgian living elsewhere) and have thus built in time to get the VS/SM on boarded and over to Georgia. Should a VS/SM be identified who does not require the onboarding process (travel trainings submission of documents), mentorship may begin sooner, and drive up total labor costs beyond those projected.	3	5	**Med-High**	Notify DTRA as soon as possible as to what the projected date will be for hitting 75% and exhaustion of funds on CLIN1001 for this effort.	**Med-High**
			Schedule / Performance			
Travel requirements	We assume that an appropriate VS/SM cannot be located who already lives in Georgia (or is a Georgian living elsewhere) and have thus built in time to get the VS/SM on boarded and over to Georgia. If mentorship needs are required prior to late November, it may be difficult to meet those needs unless a VS/SM is identified who is already resident to Georgia.	3	5	**Med-High**	Clarify travel requirements for extended TDY postings with DTRA, and ask for an exemption to 45-day window if it still holds.	**Med-High**

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$361,460
1003	MATERIALS	$2,474
1004	ODCs	$14,180
1005	TRAVEL	$4,217
TOTAL		**$382,330**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES)

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Expert may be an independent consultants or subcontractor the Metabiota PM will additionally provide management oversight of the project subcontractors (microbiology SME) and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the microbiology SME, to include leading regular coordination calls with the microbiology SME, participating in regular communications between the project stakeholders and the microbiology SME, and coordinating with the microbiology SME to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline. The PC will aid the PM and VS in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the microbiology SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Visiting Scientist: The VS will serve as the microbiology SME. The VS will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project, the needs and expectations of the Georgian scientists, and the microbiological subject matter expertise needed. The VS will provide mentoring as directed by the respective project leads.

Materials
We expect to procure a modern laptop complete with standard productivity software for use by the VS. The cost number provided here represents an estimate of the costs, and may vary depending on factors beyond Metabiota control.

Other Direct Costs
Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts
Subcontracts will be issued to the VS and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support the deployment of the VS to Tbilisi, Georgia for the initial deployment travel and final return, including a period of up to 1 week (7 days) for securing permanent lodging arrangements. No additional travel is projected based on the requirements provided. The travel budget represents the estimated amount required based on USG lodging and per diem rates; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable. As noted, lodging at GSA rates for Tbilisi, Georgia have included to this budget. It is assumed that the TBD VS will require some time to identify long term lodging (length of assignment), which would by covered by his expat uplift.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	361,460	9/23/2015	5/15/2016
1003	MATERIALS	$	2,474	9/23/2015	5/15/2016
1004	ODCs	$	14,180	9/23/2015	5/15/2016
1005	TRAVEL	$	4,217	9/23/2015	5/15/2016
	TOTAL	**$**	**382,331**	9/23/2015	5/15/2016

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ $382,331 11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV: $ $382,331	23 Sep 2015 –15 May 2016 12b. TD REV PERIOD OF PERFORMANCE 23 Sep 2015 – 15 May 2016	Signature: Date:

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM	Georgia Country Manager, (b)(6) Georgia Country Manager, (b)(6) EUCOM Regional Science Manager, (b)(6)	X (b)(6) (b)(6) COR / J3CTB Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cumulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

On 9/14/15, 10:39 AM, (b)(6)
(b)(6)
>H (b)(6)
>
>Please find attached TD-017 for microbiology visiting scientist or
>scientific mentor at the Richard Lugar Center for Public Health
>Research in Georgia. Your response is requested by 17 September 2015.
>
>Cheers,
(b)(6)
>Deputy Chief Scientist
>Cooperative Biological Engagement Program Cooperative Threat Reduction
>Defense Threat Reduction Agency
>Email (b)(6)
>Phone
>Mobil
>
>

From: (b)(6)
To:
Cc:

Subject: Re: TD-019 Georgia Microbiology Vistity Scientist/Scientific Mentor
Date: Thursday, September 17, 2015 8:09:48 PM
Attachments: CTR-CBEP_AEP_TD-019_GG Microbiology VS-SM 150917.docx
CTR-CBEP_AEP_TD-019_GG Microbiology VS-SM 150917.pdf

(b)(6)

Please find attached our response to TD-019. Of note, I have included an unsigned Word document, due to the imbedded Excel file, and a signed PDF document.

We look forward to any comments and feedback re: this proposal.

Best regards,

(b)(6)
Program Director - AEP
Metabiota, Inc
email: (b)(6)
Mobi
Skyp

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

On 9/14/15, 10:39 AM, (b)(6)
(b)(6)

>Hi (b)(6)
>
>Please find attached TD-017 for microbiology visiting scientist or
>scientific mentor at the Richard Lugar Center for Public Health Research
>in Georgia. Your response is requested by 17 September 2015.
>
>Cheers,

(b)(6)

>Deputy Chief Scientist

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	19	

4. TD TITLE	5. TOTAL TD ESTIMATE.
On-site Expertise in Microbiology Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia	HOURS. 1432 DOLLARS: $ **$380,000.00**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME (b)(6)
PHONE (b)(6) EMAIL. (b)(6)	PHONE EMAIL. (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide on-site expertise in microbiology research activities at the Richard G. Lugar Center for Public Health Research in Georgia in accordance with SOW Section 4.2, Task 2, Section 4.4, Task 4, Section 4.5, Task 5, and Section 4.6, Task 6. This expertise can be provided by a visiting scientist and/or scientific mentor and should focus on providing subject matter expertise in microbial research for CBEP-funded research projects conducted at the Lugar Center. The expertise should include guidance and mentorship on designing and implementing experimental procedures, troubleshooting methodology, and analyzing data for on-going research projects at the Lugar Center. The expert should provide technical and scientific assistance in the conduct of research projects and implementation of new diagnostics, new technology and sustainability initiatives. Additionally, the expert should assist to improve communications and integration between Georgian institutes and with international agencies collaborating on Lugar Center research efforts

Mentorship activities should focus on providing guidance in stringent metrics and international standards in data collection, analysis and data interpretation. Additionally, the research mentor should assist Georgian researchers with manuscript preparation of CBEP-funded research for submission to peer-reviewed scientific journals. This on-site interaction should facilitate motivation towards independent knowledge-building inquiry and critical thinking skills needed for future sustainable research.

The period of performance for this effort will be from 21 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $380,000 is requested by 17 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation:

Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. A key assumption for this effort is that the Georgian scientists are generally capable of conducting microbiological analyses on their own but that the requested support personnel will occasionally be asked to directly perform microbiological analyses. A second key assumption for this effort is that it is expected to be a full-time expat position. It is anticipated that the plan for TD-019 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:

From the information provided in Box 8, Metabiota assumes that the unspecified CBEP-funded research projects are ongoing affairs led by third parties. In order to effectively ensure that an appropriate microbiology subject matter expert (microbiology SME, billed as a Visiting Scientist/VS) is available to provide the requested mentoring, the Metabiota PM and PC will, upon approval of the TD, continue to engage relevant DTRA CBEP and Lugar Center stakeholders to identify how, where, and when project status updates are communicated (for example, monthly teleconference, weekly email exchanges, etc.) and what the onboarding and daily requirements are for working at the Lugar Center. Upon approval and receipt of additional information, the Metabiota PM and PC will identify a VS and work to either onboard them as a Metabiota employee, or establish a subcontract or independent consulting arrangement with the VS. The Metabiota PM, PC, and VS will participate in project communications in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the VS to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO-Tbilisi.

Mentoring and Performance of Microbiological Research:

Mentoring will be conducted in-country based on our understanding of the requirements. Metabiota does not expect to be required to provide primary microbiological analysis support to the various projects being conducted at the Lugar Center. The PM and PC will maintain regular communications with the VS to ensure that the VS has all required resources for mentoring. After assessing the need for microbiology mentoring, the VS will work with the PM, PC, and other appropriate stakeholders to develop mentoring work plans. The VS will then implement the mentoring work plans, only assisting with actual analyses and scientific writing when necessary. Additionally, the VS will provide oversight over the operations of the genomics center. The VS will work with Lugar Center POCs to identify candidates for mentorship in operating the genomics center, and work with the PM and PC to develop a strategy for developing these candidates' abilities to operate the genomic center without guidance.

Risk Management:

In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to

include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
			Cost, Schedule, Performance, Quality			
Non-response of DTRA CBEP technical POCs	The short turnaround led to only a brief communication with A&AS regarding clarification of requirements and background materials. Thus our proposed labor solution may be inadequate, impacting cost. It may also impact schedule, performance, and quality, as we may proceed to identify a SME who is incapable of meeting project requirements in a timely fashion or to the satisfaction of project stakeholders.	5	4	(b)(4); (b)(6)	Upon approval, continue efforts to contact DTRA Technical POCs and all other relevant stakeholders (for example, A&AS). During proposal development Metabiota has researched multiple possible SMEs who could potentially address project requirements.	**Med-High**
			Cost			
SME identification	We assume that an appropriate VS/SM cannot be located who already lives in Georgia (or is a Georgian living elsewhere) and have thus built in time to get the VS/SM on boarded and over to Georgia. Should a VS/SM be identified who does not require the onboarding process (travel trainings, submission of documents), mentorship may begin sooner, and drive up total labor costs beyond those projected	3	5	**Med-High**	Notify DTRA as soon as possible as to what the projected date will be for hitting 75% and exhaustion of funds on CLIN1001 for this effort.	**Med-High**
			Schedule / Performance			
Travel requirements	We assume that an appropriate VS/SM cannot be located who already lives in Georgia (or is a Georgian living elsewhere) and have thus built in time to get the VS/SM on boarded and over to Georgia. If mentorship needs are required prior to late November, it may be difficult to meet those needs unless a VS/SM is identified who is already resident to Georgia.	3	5	**Med-High**	Clarify travel requirements for extended TDY postings with DTRA, and ask for an exemption to 45-day window if it still holds.	**Med-High**

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN)

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$361,460
1003	MATERIALS	$2,474
1004	ODCs	$14,180
1005	TRAVEL	$4,217
TOTAL		**$382,330.30**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES;

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Expert may be an independent consultants or subcontractor, the Metabiota PM will additionally provide management oversight of the project subcontractors (microbiology SME) and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipat ng, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the microbiology SME, to include leading regular coordination calls with the microbiology SME, participating in regular communications between the project stakeholders and the microbiology SME, and coordinating with the microbiology SME to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline. The PC will aid the PM and VS in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the microbiology SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Visiting Scientist: The VS will serve as the microbiology SME. The VS will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project, the needs and expectations of the Georgian scientists, and the microbiological subject matter expertise needed. The VS will provide mentoring as directed by the respective project leads.

Materials
We expect to procure a modern laptop complete with standard productivity software for use by the VS. The cost number provided here represents an estimate of the costs, and may vary depending on factors beyond Metabiota control.

Other Direct Costs
Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts
Subcontracts will be issued to the VS and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support the deployment of the VS to Tbilisi, Georgia for the initial deployment travel and final return, including a period of up to 1 week (7 days) for securing permanent lodging arrangements. No additional travel is projected based on the requirements provided. The travel budget represents the estimated amount required based on USG lodging and per diem rates; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable. As noted, lodging at GSA rates for Tbilisi, Georgia have included to this budget. It is assumed that the TBD VS will require some time to identify long term lodging (length of assignment), which would by covered by his expat uplift.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV: $ $0 11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV: $ $0	12a. CURRENT PERIOD OF PERFORMANCE 21 Sep 2015 –15 May 2016 12b. TD REV PERIOD OF PERFORMANCE 21 Sep 2015 15 May 2016	**13. CONTRACTOR SIGNATURE AND DATE** Signature:_____ Date:_____
14. REGION EUCOM	**15. TECHNICAL POINTS OF CONTACT** Georgia Country Manager (b)(6) (b)(6) Georgia Country Manager (b)(6) EUCOM Regional Science Manage (b)(6) (b)(6)	**16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL** X (b)(6) COR / J3C1B Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cumulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	19	

4. TD TITLE	5. TOTAL TD ESTIMATE:
On-site Expertise in Microbiology Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia	HOURS. ____1432_____ DOLLARS: $ ____**$380,000.00**_____

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE).

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide on-site expertise in microbiology research activities at the Richard G. Lugar Center for Public Health Research in Georgia in accordance with SOW Section 4.2, Task 2, Section 4.4, Task 4, Section 4.5, Task 5, and Section 4.6, Task 6. This expertise can be provided by a visiting scientist and/or scientific mentor and should focus on providing subject matter expertise in microbial research for CBEP-funded research projects conducted at the Lugar Center. The expertise should include guidance and mentorsh p on designing and implementing experimental procedures, troubleshooting methodology, and analyzing data for on-going research projects at the Lugar Center. The expert should provide technical and scientific assistance in the conduct of research projects and implementation of new diagnostics, new technology and sustainability initiatives. Additionally, the expert should assist to improve communications and integration between Georgian institutes and with international agencies collaborating on Lugar Center research efforts.

Mentorship activities should focus on providing guidance in stringent metrics and international standards in data collection, analysis and data interpretation. Additionally, the research mentor should assist Georgian researchers with manuscript preparation of CBEP-funded research for submission to peer-reviewed scientific journals. This on-site interaction should facilitate motivation towards independent knowledge-building inquiry and critical thinking skills needed for future sustainable research.

The period of performance for this effort will be from 21 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $380,000 is requested by 17 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation:

Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8. A key assumption for this effort is that the Georgian scientists are generally capable of conducting microbiological analyses on their own but that the requested support personnel will occasionally be asked to directly perform microbiological analyses. A second key assumption for this effort is that it is expected to be a full-time expat position. It is anticipated that the plan for TD-019 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:

From the information provided in Box 8, Metabiota assumes that the unspecified CBEP-funded research projects are ongoing affairs led by third parties. In order to effectively ensure that an appropriate microbiology subject matter expert (microbiology SME, billed as a Visiting Scientist/VS) is available to provide the requested mentoring, the Metabiota PM and PC will, upon approval of the TD, continue to engage relevant DTRA CBEP and Lugar Center stakeholders to identify how, where, and when project status updates are communicated (for example, monthly teleconference, weekly email exchanges, etc.) and what the onboarding and daily requirements are for working at the Lugar Center. Upon approval and receipt of additional information, the Metabiota PM and PC will identify a VS and work to either onboard them as a Metabiota employee, or establish a subcontract or independent consulting arrangement with the VS. The Metabiota PM, PC, and VS will participate in project communications in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the VS to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO-Tbilisi.

Mentoring and Performance of Microbiological Research:

Mentoring will be conducted in-country based on our understanding of the requirements. Metabiota does not expect to be required to provide primary microbiological analysis support to the various projects being conducted at the Lugar Center. The PM and PC will maintain regular communications with the VS to ensure that the VS has all required resources for mentoring. After assessing the need for microbiology mentoring, the VS will work with the PM, PC, and other appropriate stakeholders to develop mentoring work plans. The VS will then implement the mentoring work plans, only assisting with actual analyses and scientific writing when necessary. Additionally, the VS will provide oversight over the operations of the genomics center. The VS will work with Lugar Center POCs to identify candidates for mentorship in operating the genomics center, and work with the PM and PC to develop a strategy for developing these candidates' abilities to operate the genomic center without guidance.

Risk Management:

In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to

include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
			Cost, Schedule, Performance, Quality	(b)(4); (b)(6)		
Non-response of DTRA CBEP technical POCs	The short turnaround led to only a brief communication with A&AS regarding clarification of requirements and background materials. Thus our proposed labor solution may be inadequate, impacting cost. It may also impact schedule, performance, and quality, as we may proceed to identify a SME who is incapable of meeting project requirements in a timely fashion or to the satisfaction of project stakeholders.	5	4		Upon approval, continue efforts to contact DTRA Technical POCs and all other relevant stakeholders (for example, A&AS). During proposal development Metabiota has researched multiple possible SMEs who could potentially address project requirements.	**Med-High**
			Cost			
SME identification	We assume that an appropriate VS/SM cannot be located who already lives in Georgia (or is a Georgian living elsewhere) and have thus built in time to get the VS/SM on boarded and over to Georgia. Should a VS/SM be identified who does not require the onboarding process (travel trainings, submission of documents), mentorship may begin sooner, and drive up total labor costs beyond those projected.	3	5	**Med-High**	Notify DTRA as soon as possible as to what the projected date will be for hitting 75% and exhaustion of funds on CLIN1001 for this effort.	**Med-High**
			Schedule / Performance			
Travel requirements	We assume that an appropriate VS/SM cannot be located who already lives in Georgia (or is a Georgian living elsewhere) and have thus built in time to get the VS/SM on boarded and over to Georgia. If mentorship needs are required prior to late November, it may be difficult to meet those needs unless a VS/SM is identified who is already resident to Georgia.	3	5	**Med-High**	Clarify travel requirements for extended TDY postings with DTRA, and ask for an exemption to 45-day window if it still holds.	**Med-High**

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$361,460
1003	MATERIALS	$2,474
1004	ODCs	$14,180
1005	TRAVEL	$4,217
TOTAL		**$382,330.30**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Labor

Costs for direct labor to support this activity is required for the following personnel:

All phases:

Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Expert may be an independent consultants or subcontractor, the Metabiota PM will additionally provide management oversight of the project subcontractors (microbiology SME) and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the microbiology SME, to include leading regular coordination calls with the microbiology SME, participating in regular communications between the project stakeholders and the microbiology SME, and coordinating with the microbiology SME to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline. The PC will aid the PM and VS in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the microbiology SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Visiting Scientist: The VS will serve as the microbiology SME. The VS will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project, the needs and expectations of the Georgian scientists, and the microbiological subject matter expertise needed. The VS will provide mentoring as directed by the respective project leads.

Materials

We expect to procure a modern laptop complete with standard productivity software for use by the VS. The cost number provided here represents an estimate of the costs, and may vary depending on factors beyond Metabiota control.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts

Subcontracts will be issued to the VS and/or their home organization as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested to support the deployment of the VS to Tbilisi, Georgia for the initial deployment travel and final return, including a period of up to 1 week (7 days) for securing permanent lodging arrangements. No additional travel is projected based on the requirements provided. The travel budget represents the estimated amount required based on USG lodging and per diem rates; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable. As noted, lodging at GSA rates for Tbilisi, Georgia have included to this budget. It is assumed that the TBD VS will require some time to identify long term lodging (length of assignment), which would by covered by his expat uplift.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ $0 11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV: $ $0	21 Sep 2015 –15 May 2016 12b. TD REV PERIOD OF PERFORMANCE 21 Sep 2015 – 15 May 2016	Signatur (b)(6) Date: 17 September 2015

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM	Georgia Country Manager (b)(6) (b)(6) Georgia Country Manager (b)(6) (b)(6) EUCOM Regional Science Manag (b)(6)	X (b)(6) COR / J3CTB Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cumulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

>Cooperative Biological Engagement Program
>Cooperative Threat Reduction
>Defense Threat Reduction Agency
>Emai(b)(6)
>Phon
>Mobi
>
>

From: (b)(6)
To:
Cc:

Subject: [Non-DoD Source] Re: TD-021 Rev A: IZ Epi Trng and TD-024 CENTCOM Film Narrative (No Cost PoP Extensions)
Date: Friday, May 13, 2016 2:53:15 PM
Attachments: Draft_CTR-AEP-CBEP_TD-024RevA_CENTCOM Film Narrative.pdf

(b)(6)

Please find our signed TD attached. We recognize this TD extends our period of performance, but does not change any other components of the previously approved activity.

Best regards,

(b)(6)
Deputy Program Director - AEP
Metabiota, Inc.
email: (b)(6)
Mobile
Skype

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

On 5/13/16, 1:39 PM (b)(6) wrote:

(b)(6)

>Please use the attached version for TD-024. It has the correct PoP end date of 30 June 2016.
>
>Thanks,

(b)(6)

>Program Manager, Academic Engagement Partnership (AEP)
Program
>J3CTB/Cooperative Biological Engagement Program
>8725 John J. Kingman Rd
>Ft Belvoir, VA 22060
>W (b)(6)
>Em
>
>
>

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	024	A

4. TD TITLE
Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East and South Asia

5. TOTAL TD ESTIMATE:
HOURS. _160_____ DOLLARS: $ **$49,877.97**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) AIL (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-024 from 15 May 2016 to 30 June 2016 at no additional cost. This PoP extension is to provide enough time to continue developing a Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East, South Asia and CBEP collaborations in the CENTOM Region Metabiota should coordinate directly with the Technical POCs identified below. No changes to the previously approved proposal are required at this time

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV.
$ **$49,877.97**

12a. CURRENT PERIOD OF PERFORMANCE
01-MAY-2016 – 15 MAY 2016

12b. TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 30-JUN-2016

13. CONTRACTOR SIGNATURE AND DATE
(b)(6)
Signature
Date: **13 May 2016**

14. REGION
CENTCOM/ Regional

15. TECHNICAL POINTS OF CONTACT
(b)(6)
CENTCOM Science Lead
(b)(6)
(b)(6)
TCOM Regional Lead
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X
(b)(6)
COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
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    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

>
>-----Original Message-----
>From: (b)(6)
>Sent: Friday, May 13, 2016 12:48 PM
>To: (b)(6)
>Cc:
>Subject: TD-021 Rev A: IZ Epi Trng and TD-024 CENTCOM Film Narrative (No Cost PoP Extensions)
>
(b)(6)
>Please find attached, TD-021 Rev A and TD-024 Rev A extending the Period of Performance (PoP) from 15 May 2016 to 15 November 2016 at no additional cost.
>
>Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also Cc'd), if you have any technical questions.
>
>Thanks,
>
(b)(6)
>Program Manager, Academic Engagement Partnership (AEP) Program
>J3CTB/Cooperative Biological Engagement Program
>8725 John J. Kingman Rd
>Ft Belvoir, VA 22060
>W: (b)(6)
>Em
>
>
>
>

From: (b)(6)
To:
Cc:

Subject: [Non-DoD Source] Re: TD-021 Rev A: IZ Epi Trng and TD-024 CENTCOM Film Narrative (No Cost PoP Extensions)
Date: Friday, May 13, 2016 2:56:26 PM
Attachments: Draft_CTR-AEP-CBEP_TD-021RevA_IZ_Epi Training.pdf

(b)(6)

Please find our signed TD attached. We recognize this TD extends our period of performance, but does not change any other components of the previously approved activity.

Please note that revised TD-024 was sent in another email.

Best regards,

(b)(6)
Deputy Program Director - AEP
Metabiota, Inc
email (b)(6)
Mobi
Skyp

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

On 5/13/16, 12:48 PM, (b)(6)
(b)(6)
(b)(6)
>Please find attached, TD-021 Rev A and TD-024 Rev A extending the Period of Performance (PoP) from 15 May 2016 to 15 November 2016 at no additional cost.
>
>Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also Cc'd), if you have any technical questions.
>
>Thanks,
>

(b)(6)
>Program Manager, Academic Engagement Partnership (AEP)
Program
>J3CTB/Cooperative Biological Engagement Program
>8725 John J. Kingman Rd

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	021	A

4. TD TITLE

Iraq Field Epidemiology Training Program (FETP) Support

5. TOTAL TD ESTIMATE:

HOURS: 5,750 DOLLARS: $ **$761,026**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHON (b)(6) MAIL (b)(6)

7. CONTRACTOR POC

NAME: (b)(6)

PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-021 from 15 May 2016 to 15 November 2016 at no additional cost. This PoP extension is to provide enough time to continue providing field epidemiology training support in Iraq. Metabota should coordinate directly with the Technical POCs identified below. No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV.

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$761,026**

12a. CURRENT PERIOD OF PERFORMANCE

24-FEB-2016 – 15 MAY 2016

12b. TD REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

Signatur (b)(6)

Date: **13 May 2016**

14. REGION

CENTCOM/ Iraq

15. TECHNICAL POINTS OF CONTACT

(b)(6)

Head Country Manager

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

>Ft Belvoir, VA 22060
>W (b)(6)
>Em
>
>
>
>

From: (b)(6)
To:
Cc:
Subject: Grantsmanship/Workshop (No Cost PoP Extensions)
Date: Friday, May 13, 2016 2:48:21 PM
Attachments: Draft_CTR-AEP-CBEP_TD-022RevA_UG_BSV Grantsmanship Trng.pdf
Draft_CTR-AEP-CBEP_TD-025RevA_Ethiopia Tech Writing Grantsmanship Workshop.pdf

(b)(6)

Please find our signed TD's attached. For each of the TD's (e.g., TD-022 and TD-025), we recognize the updated TD extends our project period of performance, but does not change any other components of the previously approved activity.

Best regards,

(b)(6)
Deputy Program Director - AEP
Metabiota, Inc.
email (b)(6)
Mobil
Skype

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

On 5/13/16, 12:42 PM, (b)(6) (b)(6) > wrote:

> Please find attached, TD-022 Rev A and TD-025 Rev A extending the Period of Performance (PoP) from 15 May 2016 to 15 November 2016 at no additional cost.
>
>Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also Cc'd), if you have any technical questions.
>
>Thanks,
>

(b)(6)
>Program Manager, Academic Engagement Partnership (AEP) Program
>J3CTB/Cooperative Biological Engagement Program
>8725 John J. Kingman Rd

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	022	A

4. TD TITLE

Uganda Biosurveillance and Grantsmanship Training

5. TOTAL TD ESTIMATE:

HOURS. _____ DOLLARS: $ **$253,635.27**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHONE (b)(6) EMAIL (b)(6) MAIL MIL_

7. CONTRACTOR POC

NAME: (b)(6)

PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-022 from 15 May 2016 to 15 November 2016 at no additional cost. This PoP extension is to provide enough time to continue providing grantsmanship training and subject matter expert (SME) assistance for the coordination of project design, research proposal development, and implementation of a pilot biosurveillance study in Uganda. Metabota should coordinate directly with the Technical POCs identified below. No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV.

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$253,635.27**

12a. CURRENT PERIOD OF PERFORMANCE

21-MAR-2016 – 15 MAY 2016

12b. TO REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature: (b)(6)

Date: **13 May 2016**

14. REGION

AFRICOM/ Uganda

15. TECHNICAL POINTS OF CONTACT

(b)(6)

AFRICOM Science Manager

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

COR/ JSCTD Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
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10. Funding Authorized this TD: Identifies information for billing purposes
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    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	025	A

4. TD TITLE

Technical Writing and Grantsmanship Workshop, Ethiopia

5. TOTAL TD ESTIMATE:

HOURS. _____ DOLLARS: $ **$86,957.81**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC

NAME: (b)(6)
PHONE (b)(6) EMAIL. (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-025 from 15 May 2016 to 15 November 2016 at no additional cost. This PoP extension is to provide enough time to continue developing a writing workshop for Ethiopian collaborators from the Ethiopian Public Health Institute (EPHI) and National Animal Health Diagnostic and Investigation Center (NAHDIC). Metabota should coordinate directly with the Technical POCs identified below. No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV.

$ **$86,957.81**

12a. CURRENT PERIOD OF PERFORMANCE

2-MAY-2016 – 15 MAY 2016

12b. TD REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

Signal (b)(6)

Date: **13 May 2016**

14. REGION

AFRICOM/ Ethiopia

15. TECHNICAL POINTS OF CONTACT

Ethiopia Country Manager:
(b)(6)

AFRICOM Science Manager:
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
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10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

>Ft Belvoir, VA 22060
>W[redacted](b)(6)
>En[redacted]
>
>
>
>

From: (b)(6)
To:
Cc:

Subject: [redacted]
Date: Monday, March 21, 2016 3:15:26 PM
Attachments: Draft_CTR-AEP-CBEP_TD-022_UG_BSV Grantsmanship Trng_9Mar2016_Version 3.doc
Draft_CTR-AEP-CBEP_TD-022_UG_BSV Grantsmanship Trng_9Mar2016_Version 3.pdf

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Dea (b)(6)

Please find our response to your questions/comments below:

1. Under Key Assumption 7: It assumes the participants engaged are not Ugandan government officials, and therefore fall outside of the U.S. Ambassador's memo (8 April 2015) outlining compensation of Ugandan Government personnel. However, many of the partners involved in the project are part of the UG government and will have to follow the US Ambassador's memo guidelines. In the risk management chart (page 3), the issue is addressed by stating Metabiota will work with the regional partners to ensure that we follow the memo's guidelines and will communicate this to the participants. It is our understanding that if the training or the sampling is outside the home district of the UG government employee, they can receive a stipend (maximum of 140k shillings).

Metabiota: Narrative for Assumption 7 has been changed to the following: "Metabiota recognizes guidelines regarding compensation of Ugandan government personnel, as outlined in the Ambassador's memo (8 April 2015). Metabiota has developed a basis of estimate that plans for the highest cost scenario (e.g., no Ugandan government personnel). Upon receiving names and affiliations of all project participants, Metabiota will work with DTRA CBEP to adjust the basis of estimate accordingly."

2. Clarification needed on the role of (b)(6) as technical resources and SMEs. Task 3 indicates that qualified Ugandan partners will be utilized, but the supplemental information contains the CVs of Kenyan partners. Is there a reason why Ugandan collaborators are not being utilized in the training?

Metabiota: Box 8, Phase Two suggests that Metabiota would provide up to 3 SMEs, including 1-2 from Metabiota and one Ugandan non-governmental SME (I.e. AFENET). (b)(6) have extensive regional experience, including efforts in Uganda, in veterinary sciences, surveillance, and diagnostics, making them ideal MetabiotaSMEs.

Box 8, Phase Three suggests Metabiota engage no more than five medium-level trainers, preferably from Uganda, to assist in pilot studies. Further, that the trainers may be a mix of Metabiota and Ugandan trainers. Metabiota has every intention to identify and use four medium-level trainers from Uganda. However, for the sake of consistency in integration, as well as technical expertise, we felt it would be helpful if one of the SME's from Task 2, also supported efforts for Task 3.

3. Clarification also needed on the role of (b)(6) With the identification of (b)(6) as regional SMEs, it is unclear what role (b)(6) will play in identifying SMEs.

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3. TD NUMBER
HDTRA1-14-C-0104	METABIOTA	22

4. TD TITLE	5. TOTAL TD ESTIMATE
Uganda Biosurveillance and Grantsmanship Training	HOURS 3,234 DOLLARS: $ 170,000.00

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)	PHONE: (b)(6) EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide grantsmanship training and subject matter expert (SME) assistance for the coordination of project design, research proposal development, and implementation of a pilot biosurveillance study in Uganda, in accordance with SOW section 4.4, 4.5 and 4.6, Tasks 4, 5 and 6.

Coordination of such efforts shall focus on the following topics: Ecological and bio-surveillance for Rift Valley fever (RVF) among domestic and wild animal populations in Uganda; Exploring the distribution and characteristics of avian influenza (AI) viruses in migratory waterfowl and poultry in Uganda; and Genetic and epidemiological insights into the occurrence of peste des petits ruminants virus (PPRV) among sheep, goats, cattle, and wildlife in northern Uganda.

The project design and research proposal(s) to be coordinated by Metabiota shall emphasize bio-surveillance of RVF, PPRV, and AI in Uganda and how the collection of this data would help enhance the surveillance capabilities of the country at the national level. It shall also include assistance in the development of standard operating procedures (SOPs) for the projects (e.g., biosafety/biosecurity, sample collection/handling/transport, laboratory analysis, data analysis) with the goal of enhancing local capabilities and developing the skills necessary for the early detection and prevalence determination of RVF, AI, and PPR. Metabiota will perform the following activities during the period of performance:

1. Phase One: Metabiota shall collaborate with CBEP's Ugandan research partners and coordinate with them to develop a work plan for implementation of all of the activities noted below, including project design (development of a research plan) and development of a high-quality, competitive research proposal or proposals (more details below). Metabiota should provide a PM and a SME1 to manage this coordination. The SME1 and PM should reach out directly to the POCs listed below to discuss their vision for the development of a research grant and to discuss additional SME support needed. Ugandan partners on this project are SMEs in various areas and their skills/expertise should be leveraged in accomplishing the goals of this project. The Metabiota PM and SME1 should also review the concept notes already developed by the collaborators that describe their research interests. The SME1 hours required for this should not exceed 25 hours total for maximum 3-5 weeks of coordination. PM oversight should not exceed 25 hours total for this phase.

   Ugandan collaborators should include personnel from the following institutions/organizations:
   a. The National Animal Disease Diagnostics and Epidemiology Centre (NADDEC). POC (b)(6) (b)(6)
   b. The National Livestock Resources Research Institute (NaLIRRI). POC (b)(6) (b)(6)
   c. The African Field Epidemiology Network (AFENET). POC (b)(6)
   d. The Ministry of Health, Division of Veterinary Public Health (MoH-DVPH). POC (b)(6) (b)(6) (b)(6) contact
   e. The Uganda Wildlife Authority. POC
   f. CDC- POC (b)(6)
   g. The Ministry of Health, Uganda Virus Research Institute (MoH-UVRI). POC (b)(6) (b)(6)
   h. Ministry of Agriculture, Animal Industry and Fisheries (MAAIF). (b)(6) (b)(6)

   Phase One deliverables: Work plan with project design and timeline with clear roles and responsibilities

2. Phase Two: Metabiota shall assist the collaborators identified in Phase 1 with the development of a detailed research plan (experimental design) and research proposal(s), including budget, for epidemiologic studies/bio-surveillance research of RVF, AI, and PPR in Uganda based on the needs and research interests of the identified collaborators. These needs are already described in three concept notes developed by the Ugandan collaborators. The determination of whether one joint proposal or separate proposals will be developed will be made in partnership with Ugandan collaborators. The research plan shall include comprehensive descriptions of the hypothesis and research questions; development of a list of materials

and supplies to accomplish the research studies; and SOPs planned for the collection of samples, including field, laboratory, and data analytics, as well as a discussion of biosafety and biosecurity risks and mitigations (e.g. infectious sample transport and handling). CBEP expectation is for Metabiota to provide the collaborators with SME support (Metabiota and Ugandan SMEs) to inform the development of the proposal(s) that the Ugandan collaborators will write. Metabiota is not expected to write the grant proposal, but to provide oversight regarding the development of hypotheses, research design, and the research proposal writing process. The concept notes are well-developed, but will need to be strengthened to provide additional detail on sample size calculations, sample analysis procedures, data analysis methods, and other specifics to make them competitive research proposals. Metabiota should support the Ugandan collaborators in exploring potential funding options, not only DTRA, and assist them in tailoring their proposal(s) to specific funding opportunities.

To complete this task, Metabiota should provide up to 3 SMEs, including 1-2 from Metabiota and one Ugandan non-governmental SME (i.e. AFENET). Each SME should spend no more than 60 hours total over a maximum of 6 weeks to provide input/feedback and grantsmanship expertise to the research plan (experimental design) and the research proposal(s) developed by the Ugandan collaborators. PM oversight of the SMEs' review and coordination of activities should not exceed 30 hours total for Phase Two.

Phase Two deliverables: Project proposal(s) with budgets and SOPs

3. Phase Three: After completion of activities described in Phase 2, Metabiota shall also provide technical expertise to train stakeholders and work with them to conduct small pilot studies in Uganda to test the SOPs developed for the larger surveillance studies in the proposal(s) to determine their effectiveness and the viability of the project design on a smaller scale. Metabiota shall provide no more than 5 medium-level trainers to assist in the pilot studies. Trainers may be a mix of Metabiota and Ugandan trainers or mostly/all Ugandan trainers, which would be viewed as a strong approach to enhance sustainability of CBEP's investment. The training should consist of one in-country activity as well as continued coordination via email, phone, webinar, or a similar lower-cost communication/coordination mechanism throughout the pilot study period.

    Phase Three, Part One: Preparation and coordination in advance of the in-country training and pilot studies should take no more than 6 weeks, and may begin during Phase Two to maximize efficiency, especially for the definition of the scope and timelines for the pilot studies and the procurement of materials needed for the pilot studies. Coordination will be between Metabiota and all the POCs listed above, as well as identified SMEs/trainers, if different from the above. Training materials should be discussed and obtained during this phase. The training materials will be developed from the project proposal and SOP documents, existing training materials owned/obtained by the Ugandan collaborators, and additional supplemental material as needed. If Metabiota and Ugandan collaborators agree that some necessary training materials do not already exist and need to be developed, the team may work together to augment existing materials. A PM, SME1, and a maximum of 5 medium-level trainers would be an appropriate mix to accomplish the efforts in this phase. Trainers should have expertise in the Ugandan public health, veterinary, and wildlife systems as well as local research methods and processes. Not all people need to participate in all tasks at all times during this planning and coordination, and resources should be conserved to include only the necessary individuals at each step. SME1 hours during Phase Three, Part One should not exceed 40 hours: 55 hours if training materials need to be developed. Hours per trainer for preparation and coordination should not exceed 10 hours; 25 hours if they need to participate in development of training materials. PM hours dedicated to oversight of this planning and preparation should not exceed 30 hours.

    Phase Three, Part Two: The in-country training shall be conducted over a period of 10 working days (5 days per week for 2 separate weeks and should include no more than 20 trainees, to be identified by the Ugandan collaborators, across the 3 pilot studies). The training may be conducted as one comprehensive event, providing overarching skills, knowledge and guidance in a way that it will benefit all three projects; or it may be divided into sections for more focused training on the individual projects; or it may be a combination, with some parts together and some break-out or working group sessions that are more specific. Metabiota should collaborate with the Ugandan POCs and trainers to determine the best approach. The PM, SME1 and trainers' time should not exceed 10 hours per day of training. One day before or after the training for in-person coordination for the pilot studies would be appropriate and should not exceed 8 hours of labor each for the PM, SME1, trainers, and pilot study project leads. It would be acceptable for the trainers and pilot study project leads to be the same people in some cases, as appropriate. PM level of effort should be less than the SME1 given oversight vs. implementation role.

    Phase Three, Part Three: Metabiota will provide management oversight and support to the Ugandan partners in implementation of three pilot field studies. The Ugandan collaborators are in the process of receiving appropriate permits and sample collection can only commence following DTRA Research Oversight Board (ROB) approvals. This activity shall include the procurement of materials and supplies required for the pilot studies, not to exceed $100,000. Metabiota shall work with the Ugandan partners to identify the most efficient, cost-effective way to

procure materials and supplies. Pilot study project leads and field technicians' level of effort should not exceed 680 hours over 8 weeks for pilot study implementation and oversight. There should be no more than 3 pilot study project leads and 11 technicians total supported by Metabiota for all three pilot studies. PM and SME1 hours dedicated to pilot study implementation guidance and oversight should not exceed 60 hours over 8 weeks. PM level of effort should be less than the SME1 given oversight vs. technical SME support role.

The following information and study objectives are provided for reference for proposal development (longer term objectives) and pilot study design/implementation (shorter term objectives). The concept notes developed by the Ugandan collaborators are attached for more detail. The pilot studies should focus on validating the SOPs developed as part of the longer-term study design and proposal development in Phase 2, and on conducting sample collection, lab analysis, and data analysis on a small subset of the various animal populations noted below.

Study 1 - The portion of the project regarding ecological and biosurveillance for Rift Valley Fever (RVF) among domestic and wild animal populations In Uganda shall address the following objectives:

a. Determine the inter-epidemic seroprevalence of RVF in a sample population of relevant domestic animals and wildlife in study areas with clearly identified serotypes. Training in this area should establish better methods for the biosurveillance of epizootic and zoonotic diseases in Uganda.
b. Create/improve contingency plans for RVF outbreaks ready for implementation at the central and local district levels through collaboration with a Ugandan government representative specializing in disease prevention and control as well as outbreak containment in Uganda.

Study 2 - The portion of the project focused on exploring the distribution and characteristics of avian influenza viruses (AIVs) in migratory waterfowl and poultry in Uganda shall include these specific objectives:

a. Establish temporal and spatial distribution and prevalence of AIVs in a sample population of waterfowl and domestic poultry in Uganda.

Study 3 - The portion of the project regarding the genetic and epidemiological insights into the occurrence of peste des petits ruminants virus (PPRV) among sheep, goats, and cattle in northern Uganda shall include these objectives:

a. Determine the prevalence of PPRV in wild animal species in the Kidepo Valley National Park and in goats, sheep, and cattle in Nakapiripirit district of Uganda.
b. Use of RT-PCR to detect the presence of PPRV and competitive ELISA to determine the presence of specific PPRV antibodies.
c. Development of a questionnaire to obtain data on existing control measures, livestock movement patterns, PPRV vaccination practices and prevalence, and other relevant epidemiological and surveillance factors.

For the pilot studies, an appropriate scope would include the following:

Study 1 - Pilot study will include no more than 1,000 serum samples collected from 768 domestic animals (cattle, sheep and goat) and 232 wild animal ruminant and porcine species. Laboratory analysis will be limited to serology (ELISA). Data analysis will include determination of RVF antibody seroprevalence. ELISA will be conducted at the CDC lab at UVRI with participation as appropriate by relevant project collaborators.

Study 2 - Pilot study will include no more than 1,000 serum samples collected from two distinct locations with measurably high levels of interface between the wild birds, domestic poultry, and humans. Samples should be collected from approximately 590 domestic poultry and 410 wild poultry, split evenly between both locations. Laboratory analysis will be limited to ELISA for Influenza A viruses and PCR-based molecular analyses, both to be conducted at NADDEC.

Study 3 - Pilot study will include no more than 1,000 serum samples collected each from two distinct locations. The samples should be from approximately 232 cattle and 768 sheep or goats split evenly between the two locations. Development and piloting a questionnaire to assess PPRV risk factors such as vaccination practices, livestock movement and PPRV control measures will be part of the study. Laboratory analysis will be limited to serological and molecular techniques and data analysis will include determination of PPRV antibody seroprevalence and risk factors for PPRV. ELISA and PPR will be conducted at NADDEC. Metabiota shall not pay for Ugandan government collaborators' time for activities completed as part of their normal job/position and role within their institution. Time shall not be paid to government collaborators for Phase One or Phase Two. Ugandan government collaborators can be compensated for time if they are included as trainers, pilot study project leads, and field technicians for Phase Three. AFENET is not a government organization. CDC will not be compensated for time related to this project. All other POCs listed above are Ugandan government collaborators.

Travel costs for Ugandan participants related to the training event and field studies should only include ground transport, lodging, and per diem costs for participants working a distance of greater than one hour travel time from their home, and any requested ground transport, lodging, or per diem payments shall be cleared with CBEP prior to making commitments to cover these costs. Local participants in the training and field work (living one hour or less from the location of their work that day) will not have travel, lodging, or per diem costs covered.

Phase Three deliverables: Pilot studies implemented; PCR and ELISA results provided to CBEP; results and analyses developed into a pilot project summary of conclusions per project and provided to CBEP; and summary of conclusions provided to the Ugandan national authorities for disease surveillance and control.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

Phase 0: Proposal Development & Initiation (Task 1: March 7-9, 2016)

Metabiota developed a project plan and implementation strategy that aligns with narrative from Box 8. It is anticipated that the plan for TD-022 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as a Research and Data Analyst (RDA)) time to identify the optimal strategy, including required deliverables and other programmatic requirements, which may be a part of project implementation

The Metabiota PM and PC coordinated with (b)(6) abiota's Executive Vice President (EVP) in charge of Science Integration and communication with our regional scientific networks to identify the appropriate SMEs in grantsmanship, experimental design, and biosurveillance to develop and augment project work plans and training materials. Ultimately, this measure was taken to ensure our technical and cost solutions were of the highest quality and sustainable, respectively.

Key assumptions:

1. Metabiota received unofficial communication supporting an extension of its contract from May 16, 2016 to November 15, 2016, this technical response has been developed with the key assumption that this additional time will be allotted to this project.
2. Metabiota assumes DTRA CBEP representatives will provide Metabiota with the concept notes referred to in Box 8 upon the approval of this TD.
3. Metabiota assumes that DTRA CBEP representatives involved in the development of this technical direction will be available for a kick-off meeting to discuss any associated historical engagement with the research collaborators and their respective needs and constraints.
4. Metabiota assumes changes to the budget (e.g., labor categories) will be acceptable to DTRA. An RDA was added to provide flexibility when implementing; however, this has not affected the overall project budget.
5. Metabiota assumes our response should align with narrative from Box 8, which does not align with the figures provided in Box 5.
6. Metabiota assumes that there will be a need to develop training materials during phase 3 part 1 in preparation for phase 3 part 2, and has incorporated the necessary LOE into this technical proposal.
7. Metabiota recognizes guidelines regarding compensation of Ugandan government personnel, as outlined in the Ambassador's memo (8 April 2015). Metabiota has developed a basis of estimate that plans for the highest cost scenario (e.g., no Ugandan government personnel). Upon receiving names and affiliations of all project participants, Metabiota will work with DTRA CBEP to adjust the basis of estimate accordingly.

Phase 1: Work Plan Development (Task 1: March 21-April 22, 2016)

Upon approval of the TD, Metabiota will engage DTRA CBEP to ensure a mutual understanding of project goals and objectives is realized, as well as to obtain the concept notes referred to in Box 8. Metabiota will additionally engage with the eight Ugandan collaborators provided in Box 8 as well as other key stakeholders to obtain additional information such as possible existing work plans, research plans, and training materials for grantsmanship and standard operating procedures for related biosurveillance activities. The Metabiota PM, PC, and SMEs will participate in regular project communications with stakeholders to ensure mutual understanding of project goals, actions, and status.

Metabiota SMEs will conduct a review of the concept notes referred to in Box 8 to establish a baseline for outreach to the identified Ugandan stakeholders. Metabiota will then conduct a series of data calls with these Ugandan stakeholders in order for the SMEs familiarize themselves with the current capabilities and needs of the identified stakeholders, and to identify an appropriate path forward for the work plan. This work plan will identify a timeline of implementation and key milestones and goals for both the development of a detailed research plan (from which, Pilot training and design study will be extracted), as well as development of research proposals (ex. number of proposal submissions, drafts of white papers, etc.). The work plan will include activities providing grantsmanship support, mentorship, and subject matter expertise to key Ugandan stakeholders throughout proposal development, Pilot training and study design and ver fication, and proposal editing and submission process. Metabiota will submit the work plan draft(s) to DTRA CBEP for review and approval.

Phase 2: Research Plan and Proposal Development (Tasks 1, 4: April 25-June 24, 2016)

Metabiota SMEs will execute the work plan as approved by DTRA CBEP in Phase 1. In doing so, Metabiota will coordinate with the identified Ugandan stakeholders to support the development of a detailed research plan as well as research proposals for epidemiologic studies/bio-surveillance research of RVF, AI, and PPR based on the needs and research interests identified in Phase 1.

Metabiota SMEs will provide support to the Ugandan stakeholders to develop a comprehensive research plan, which will include a detailed list of materials and supplies needed to accomplish the research studies. Moreover, the research plan will include detailed SOPs planned for the collection of samples, including field, laboratory, and data analytics as well as identification of biosafety and biosecurity risks and associated mitigation methods. From this overarching research plan, the Metabiota SMEs and Ugandan stakeholders will develop up to three (3) pilot study plans to test the SOPs developed in the research proposals for their effectiveness and viability of project design. In doing so, the Metabiota SMEs will provide support, mentorship, and expertise in the development, strengthening, and tailoring of these research plans through the submission proves while the Ugandan stakeholders are expected to write and finalize these plans based on the guidance they are provided. Metabiota will submit the final research plan(s), research proposals (including financials) and proposed SOPs for DTRA CBEP's review and approval.

Phase 3, Part 1: Preparation end Coordination for In-country Training and Pilot Studies (Tasks 1, 3, 4: March 28-Aug 11, 2016)

Metabiota will coordinate with the Ugandan stakeholders to identify the most appropriate participants for both training and Pilot study activities. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured for the SMEs and FLNs as needed. The Metabiota PM and PC will work with the projec: teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS via the DTRA CBEP Technical Point of Contact.

Metabiota will coordinate with the Ugandan Stakeholders to identify training needs as discussed in Phase 1 and further identified in Phase 2 SOP development. To meet these needs, Metabiota will reuse existing training materials and SOPs for applicable biosurveillance activities as much as possible. However, due to the limited information currently available regarding the intended pilot research plans, Metabiota expects to use SMEs to adapt and develop training materials for effective delivery of training. Metabiota SMEs will develop new materials, which may including slide presentations, videos, etc. to effectively leverage the learning environment. Metabiota will also develop, as appropriate, pre-tests and post-tests for monitoring and evaluation purposes. Training materials, after development and adaptation, will be delivered to DTRA CBEP for technical review and Public Affairs Office approval.

Phase 3, Part 2: Conduction of In-country Training (Task 1, 3, 4: August 4-24, 2016)
Metabiota SMEs will execute a 10-day training activity for up to 20 participants who will be taking part in the three identified pilot studies followed by a 1-day pilot study coordination day with the pilot study leads. Metabiota anticipates a mix of lecture and hands-on training being necessary, however, Metabiota SMEs will adjust the training approach based on the Stakeholder feedback obtained in Phase 1. Metabiota SMEs will be available for virtual "office hours" and to answer written communications from participants as needed throughout the conduction of pilot studies. Metabiota SMEs will also conduct pre-/post- training testing and evaluations and provide feedback to the participants on their performance. FLNs will be used to facilitate training activities to the extent possible.

Phase 3 Part 3: Conduction of Pilot Studies (Tesk 1, 4, 6: August 18-Oct 26, 2016)
Metabiota SMEs will coordinate with the pilot study leads for the conduction of three pilot field studies, involving up to three pilot study leads and 11 technicians over a period of 8 weeks. Metabiota SMEs will be available for virtual "office hours" and to answer written communications from all participants as needed throughout the conduction of the pilot studies. Metabiota will provide management oversight and support for the conduction of these pilot studies, and will support the Ugandan collaborators in obtaining all required approvals for project continuation, including but not limited to ROB approvals. Metabiota will coordinate with all Stakeholders to identify the necessary materials required to conduct all pilot effort(s). Inclusive of this, Metabiota will provide any necessary support (SME or logistical) to in-country participants when navigating the procurement process. All materials will be identified and procured with sustainment in mind. Metabiota will submit pilot study summaries, including individual pilot study results, analyses, and conclusions as well as a summary of implementation conclusions to DTRA CBEP for communication to the Ugandan national authorities for disease surveillance and control.

Final Project Report
Metabiota PM, PC, and SMEs will all contribute inputs to a final report relaying all actions taken for project implementation through all phases, lessons learned, and identifying next step opportunities upon completion of all deliverables. Results of pre- and post- testing and evaluations from training will also be provided to DTRA CBEP.

Monitoring and Evaluation
In order to develop a comprehensive approach to continuous monitoring and evaluation of this project throughout implementation, Metabiota has developed a comprehensive monitoring and evaluation plan which can be found in the attached Appendix A (Supplemental Information) Part 5.

Risk Management:
In order to anticipate and overcome obstacles included (but not limited to) those listed in Risk Management Matrix found in the attached Supplemental Information Part 2, Metabiota has identified and captured the risks associated with implementing this activity, including contingency planning and course correction measures which will lead to overall regional risk reduction, as outlined in the attached Risk Management Matrix.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$111,755
1003	MATERIALS	$105,270
1004	ODCs	$3,680
1005	TRAVEL	$32,931

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

All phases:
Task 1 - Project Coordination: Metabiota will provide consistent and cohesive technical and administrative leadership, direction, program management, implementation oversight, and coordination of all project activities.

Metabiota Program Manager (PM): The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of DTRA CBEP goals at the country and regional level in direct support of this activity and the DTRA CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the RDA to ensure all day-to-day activities for the project are completed on time, and to the quality required by DTRA CBEP.

Metabiota Project Coordinator: The Metabiota RDA will act as a Project Coordinator (PC) throughout the planning and execution of project objectives. The PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will manage the SMEs and FLNs and lead coordination with the Ugandan Stakeholders, to include leading regular coordination calls with the project team and assist in participant coordination.

Note* - Metabiota recognizes that the RDA labor category was not included to Box 8 of this TD. Upon review of internal support (e.g., Project Coordinators) and to allow greater project implantation flexibility, Metabiota has proposed the use of an RDA instead of a SME 1 for all project coordination. Importantly, while hours have been added for project coordination, the overall cost for the Project Coordinator role remains unchanged between RDA and SME 1.

A key requirement to ensure effective program initiation, execution, and closeout is ensuring clear communication between all project stakeholders. To ensure the project in managed according to CBEP standards, the PM and PC will be responsible for the following:

Initiation and Program Integration: The PM, with PC support, developed the project proposal to include the project timeline, identification and integration of project requirements, deliverables, subcontractors, SMEs, and trainers to ensure project success. Upon acceptance of the proposal, the

PM will hold a kick-off meeting with team members and partners to review the project plan and schedule, establish routine communication to support project implementation, initiate education on the contract requirements, and begin project implementation. Routine communication with all stakeholders will ensure that all deliverables, including required CDRLs, are met and submitted according to the project schedule and contract requirements.

The PM and PC will work closely with Ugandan POC's identified in Box 8 (Phase 1) to understand their respective vision for this effort, including the development of a work plan for implementing all identified activities. In addition, the PM and PC will coordinate communication between Ugandan POC's and the identified grantsmanship/BSV SME's (e.g., project team members) to ensure alignment of project plans with DTRA CBEP goals when developing the research project design and high-quality and competitive research proposal(s) (Phase 2). Lastly, the PM and PC will coordinate all aspects of training implementation (Phase 3), to include identification and appropriate engagement of FLNs, to include a Study Leads and Study Technicians, to support in-country training and BSV pilot studies (Phase 3) by interfacing regularly (see Communication Management) with project personnel to ensure that in-country and overall project objectives and requirements are met in full. The PM will ensure that FLNs are engaged according to contract and project requirements, and have the experience, background, and skills necessary to support training implementation. FLNs are budgeted at the AFRICOM FLN I rate.

The PM will ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include; overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Project Close out: The Metabiota PM and PC will oversee project closeout, to include completion of grant proposals, wrap-up of training, and finalization and submission of all identified deliverables, including final reports. The PM will also ensure the conclusion of subcontracts and other employment agreements.

Additional communication strategies and programmatic safeguards, including 1) Human Resources Management, 2) Communications Management, 3) Risk Management, 4) Schedule Management, 5) Cost Management, 6) Quality Management, and 7) Technical Resource Management can be found in Appendix A (Supplemental Information).

Task 3 – Qualified Trainers (QT): Metabiota will provide financial support to in-country Qualified Trainers (Phase Three, Parts One and Two) via subcontracts of independent consultant agreements with the yet to be identified trainers. Metabiota recognizes the importance of identifying Ugandan nationals to fill these roles in order to foster relationships and build regional capacity. Metabiota will work with all project stakeholders to identify the appropriate trainers. Currently, it is presumed that all qualified trainers will be billed at the AFRICOM FLN 1 rate.

Task 4 - Subject Matter Experts (SMEs): Metabiota will provide ongoing technical support and expertise through the use of SMEs, to include the development of 1) a work plan for implementing all identified activities, 2) project design, and 3) development of high-quality and competitive research proposal(s). Metabiota SMEs engaged for this effort will provide expertise and input on the development and revision of existing training materials, development and revision of SOPs, as well as mentoring of study participants in grantsmanship and BSV training activities. SMEs will predominately operate remotely throughout Phases 1, 2, and most of Phase 3 and will thus provide mentorship through regular written communication and video teleconferencing with project participants, as necessary. Importantly, the SMEs for this effort are Kenyan nationals and geographically situated in Nairobi, Kenya which will ease operating delays due to time zone differences. Moreover, the identified SMEs possess excellent operational knowledge of East Africa and capabilities in technical writing, biosurveillance techniques, and one health concepts related to infectious disease research. For Phase Three, Part Two, SMEs will implement the training efforts and will work in partnership with FLN project participants to administer the courses, provide QA/QC of all materials, engage trainees in capacity building and scientific discussions supporting training concepts and implementation, and assist in the development of a gap analysis report. SMEs on this effort will be performing the functions of both SMEs and Qualified Trainers (QTs). In line with government guidance, the SMEs will be billing at the SME I labor rate, which is the equivalent cost of QT I.

Metabiota will subcontract Africa Biomedical Laboratories (ABL; Nairobi, Kenya) for SME support of this effort. The use of regionally accessible, African Nationals helps to build regional capabilities and networks, and ensures overall project success

Task 6 – Research Activity Projects: Metabiota will provide financial support to Study Leads and Study Technicians (Phase Three, Part Three) via subcontracts of independent consultant agreements with the yet to be identified participants. Metabiota will work with all project stakeholders to identify the appropriate project participants. It is currently presumed that all project participants will be billed at the AFRICOM FLN 1 rate.

Note* - Metabiota is aware of guidance provided by the US Ambassador to Uganda regarding salary support to Government of Uganda personnel. If the Trainers, Study Leads, or Study Technicians are direct employees of the Ugandan Government (e.g., Ministry of Health, Agriculture, Wildlife, etc.), Metabiota will adjust their engagement strategy to reflect the Ambassadors guidelines. The budget for this project will be impacted accordingly.

Reach back programmatic support to include finance, accounting, and contracts, will be provided as part of CLIN 1001 (FFP) and will not be separately invoiced.

Materials

As defined in Box 8 (Phase Three, Part Three) this activity shall include the procurement of materials and supplies required for the pilot studies, not to exceed $100,000. Metabiota will work with the Ugandan partners to identify the most sustainable, efficient, cost-effective way to procure materials and supplies for executing BSV pilot studies. The identification of sustainable supplies will be critical for continuing BSV-related activities, which will be described in greater detail within newly developed grant proposals (Phase Two). Any materials procured by Metabiota will be shipped via CLS. If materials can be secured and provided to the trainers/trainees locally or online, shipping will not be required. Additionally, Metabiota will work with SMEs based in Kenya to help identify sustainable and reliable vendors of biomedical supplies.

Given the nature of this effort (e.g., BSV), Metabiota anticipates the need to procure personal protective equipment such as Tyvek suits, gloves, goggles, booties, and N95 respirators, as well as consumables and other paraphernalia such as chlorine, plastic wash basins, buckets, disinfectant sprayers, and anti-fog spray will also be procured. A final list of materials required for this effort will be identified in coordination with all project stakeholders.

Following discussions with all project stakeholders, and if warranted, USB internet devices and internet access cards will be procured and provided to project participants in-country to ensure they have access to a stable internet connection during remote coordination and training sessions, which are included to all phases of this effort. USB internet devices will be procured and tested in-country to avoid shipping charges and to ensure they are

operational on the ground. USB internet devices and access cards will be monitored by the FLNs to ensure they are used for project purposes only, and are maintained according to equipment/material guidelines for the duration of the course.

General office supplies will be procured to support in-country training activities and routine project needs for the execution of the training courses. Office supplies will be procured locally and will include, but may not be limited to, pens, paper, thumb drives, binders, etc.

Metabiota will conduct market research and ensure the best value is secured, maintaining quality and technical requirements for all procurement of goods. Metabiota will coordinate directly with CLS and third-country vendors for all necessary shipping requirements, and will work closely with CLS and DTRO to ensure customs clearance requirements are met and goods delivered according to project timelines and CDRL requirements. Metabiota will ensure cost management for all procured supplies and will coordinate directly with CBEP and CLS to support additional requirements for the hands-on training events to include such items as printing of the developed and adapted training materials, training certificates for participants, and translation services, if needed.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project working abroad. DBA insurance will be applied for labor costs incurred overseas. DBA will be applied to the PM, SMEs/Trainers, FLNs, and other contractors, engaged on this effort, for the duration of the program. Metabiota maintains a blanket DBA policy for all personnel and will add the SMEs and FLNs, and other performers meeting DBA requirements, to this policy as they are engaged. A rate of (b)(6) their total compensation will be billed to the project on a monthly basis. A reconciliation of the total DBA will be performed prior to final invoicing to ensure accuracy of the charges, in accordance with total hours worked. Final invoicing will be adjusted, if necessary, to reflect the final DBA allocation numbers.

Subcontracts

Subcontracts will be issued to SMEs, FLNs, and/or their home organization(s) as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the labor or materials budgets.

Travel

Travel is requested to support the Program Manager, SME, and qualified Ugandan trainers to Kampala, Uganda to implement training efforts for project participants (Phase Three, Part Two). The travel budget represents the estimated amount required; travel on the AEP contract is cost reimbursable.

All Metabiota personnel slated to travel are current with regard to ISOPREP, SERE, and AT/FP trainings, as required by CBEP. Additionally, the SME's leveraged for this effort are Kenyan Nationals and therefore do not require the aforementioned travel trainings/documents.

Our travel budget assumes training will be held in Kampala over the course of two weeks, including one day before or after for in-person coordination, as described in Phase Three, Part Two of this proposal. If, through discussion with the Ugandan stakeholders, an alternative schedule is created or an alterative location is desired, travel costs may be impacted accordingly

10. FUNDING AUTHORIZED THIS TD:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ _____

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ _____

12a. CURRENT PERIOD OF PERFORMANCE

21-Mar-2016 – 15-May-2016

12b. TO REV PERIOD OF PERFORMANCE

_____

13. CONTRACTOR SIGNATURE AND DATE

Signature: _____

Date: _____

14. REGION

AFRICOM/ Uganda

15. TECHNICAL POINTS OF CONTACT

AFRICOM Science Manager: (b)(6)

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

Signature: _____

Date: _____

Instructions:

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution for TD. Limit to __ pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Limit to __ pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cumulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Contracting Officer Approval: Sign & Date
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3. TD NUMBER
HDTRA1-14-C-0104	METABIOTA	22

4. TD TITLE	5. TOTAL TD ESTIMATE.
Uganda Biosurveillance and Grantsmanship Training	HOURS: 3,234 DOLLARS: $ 170,000.00

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE (b)(6) MAIL. (b)(6)	PHONE: (b)(6) EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide grantsmanship training and subject matter expert (SME) assistance for the coordination of project design, research proposal development, and implementation of a pilot biosurveillance study in Uganda, in accordance with SOW section 4.4, 4.5 and 4.6, Tasks 4, 5 and 6.

Coordination of such efforts shall focus on the following topics: Ecological and bio-surveillance for Rift Valley fever (RVF) among domestic and wild animal populations in Uganda; Exploring the distribution and characteristics of avian influenza (AI) viruses in migratory waterfowl and poultry in Uganda; and Genetic and epidemiological insights into the occurrence of peste des petits ruminants virus (PPRV) among sheep, goats, cattle, and wildlife in northern Uganda.

The project design and research proposal(s) to be coordinated by Metabiota shall emphasize bio-surveillance of RVF, PPRV, and AI in Uganda and how the collection of this data would help enhance the surveillance capabilities of the country at the national level. It shall also include assistance in the development of standard operating procedures (SOPs) for the projects (e.g., biosafety/biosecurity, sample collection/handling/transport, laboratory analysis, data analysis) with the goal of enhancing local capabilities and developing the skills necessary for the early detection and prevalence determination of RVF, AI, and PPR. Metabiota will perform the following activities during the period of performance:

1. Phase One: Metabiota shall collaborate with CBEP's Ugandan research partners and coordinate with them to develop a work plan for implementation of all of the activities noted below, including project design (development of a research plan) and development of a high-quality, competitive research proposal or proposals (more details below). Metabiota should provide a PM and a SME1 to manage this coordination. The SME1 and PM should reach out directly to the POCs listed below to discuss their vision for the development of a research grant and to discuss additional SME support needed. Ugandan partners on this project are SMEs in various areas and their skills/expertise should be leveraged in accomplishing the goals of this project. The Metabiota PM and SME1 should also review the concept notes already developed by the collaborators that describe their research interests. The SME1 hours required for this should not exceed 25 hours total for maximum 3-5 weeks of coordination. PM oversight should not exceed 25 hours total for this phase.

   Ugandan collaborators should include personnel from the following institutions/organizations:
   a. The National Animal Disease Diagnostics and Epidemiology Centre (NADDEC). POC (b)(6)
   b. (b)(6) k Resources Research Institute (NaLIRRI). POC (b)(6) (b)(6)
   c. The African Field Epidemiology Network (AFENET). POC (b)(6)
   d. The Ministry of Health, Division of Veterinary Public Health (MoH-DVPH). (b)(6) (b)(6)
   e. The Uganda Wildlife Authority. POC (b)(6)
   f. CDC- POC Dr. (b)(6)
   g. The Ministry of Health, Uganda Virus Research Institute (MoH-UVRI). POC (b)(6) (b)(6)
   h. Ministry of Agriculture, Animal Industry and Fisheries (MAAIF). (b)(6) contact (b)(6)

   Phase One deliverables: Work plan with project design and timeline with clear roles and responsibilities

2. Phase Two: Metabiota shall assist the collaborators identified in Phase 1 with the development of a detailed research plan (experimental design) and research proposal(s), including budget, for epidemiologic studies/bio-surveillance research of RVF, AI, and PPR in Uganda based on the needs and research interests of the identified collaborators. These needs are already described in three concept notes developed by the Ugandan collaborators. The determination of whether one joint proposal or separate proposals will be developed will be made in partnership with Ugandan collaborators. The research plan shall include comprehensive descriptions of the hypothesis and research questions; development of a list of materials

and supplies to accomplish the research studies; and SOPs planned for the collection of samples, including field, laboratory, and data analytics, as well as a discussion of biosafety and biosecurity risks and mitigations (e.g. infectious sample transport and handling). CBEP expectation is for Metabiota to provide the collaborators with SME support (Metabiota and Ugandan SMEs) to inform the development of the proposal(s) that the Ugandan collaborators will write. Metabiota is not expected to write the grant proposal, but to provide oversight regarding the development of hypotheses, research design, and the research proposal writing process. The concept notes are well-developed, but will need to be strengthened to provide additional detail on sample size calculations, sample analysis procedures, data analysis methods, and other specifics to make them competitive research proposals. Metabiota should support the Ugandan collaborators in exploring potential funding options, not only DTRA, and assist them in tailoring their proposal(s) to specific funding opportunities.

To complete this task, Metabiota should provide up to 3 SMEs, including 1-2 from Metabiota and one Ugandan non-governmental SME (i.e. AFENET). Each SME should spend no more than 60 hours total over a maximum of 6 weeks to provide input/feedback and grantsmanship expertise to the research plan (experimental design) and the research proposal(s) developed by the Ugandan collaborators. PM oversight of the SMEs' review and coordination of activities should not exceed 30 hours total for Phase Two.

Phase Two deliverables: Project proposal(s) with budgets and SOPs

3. Phase Three: After completion of activities described in Phase 2, Metabiota shall also provide technical expertise to train stakeholders and work with them to conduct small pilot studies in Uganda to test the SOPs developed for the larger surveillance studies in the proposal(s) to determine their effectiveness and the viability of the project design on a smaller scale. Metabiota shall provide no more than 5 medium-level trainers to assist in the pilot studies. Trainers may be a mix of Metabiota and Ugandan trainers or mostly/all Ugandan trainers, which would be viewed as a strong approach to enhance sustainability of CBEP's investment. The training should consist of one in-country activity as well as continued coordination via email, phone, webinar, or a similar lower-cost communication/coordination mechanism throughout the pilot study period.

   Phase Three, Part One: Preparation and coordination in advance of the in-country training and pilot studies should take no more than 6 weeks, and may begin during Phase Two to maximize efficiency, especially for the definition of the scope and timelines for the pilot studies and the procurement of materials needed for the pilot studies. Coordination will be between Metabiota and all the POCs listed above, as well as identified SMEs/trainers, if different from the above. Training materials should be discussed and obtained during this phase. The training materials will be developed from the project proposal and SOP documents, existing training materials owned/obtained by the Ugandan collaborators, and additional supplemental material as needed. If Metabiota and Ugandan collaborators agree that some necessary training materials do not already exist and need to be developed, the team may work together to augment existing materials. A PM, SME1, and a maximum of 5 medium-level trainers would be an appropriate mix to accomplish the efforts in this phase. Trainers should have expertise in the Ugandan public health, veterinary, and wildlife systems as well as local research methods and processes. Not all people need to participate in all tasks at all times during this planning and coordination, and resources should be conserved to include only the necessary individuals at each step. SME1 hours during Phase Three, Part One should not exceed 40 hours; 55 hours if training materials need to be developed. Hours per trainer for preparation and coordination should not exceed 10 hours; 25 hours if they need to participate in development of training materials. PM hours dedicated to oversight of this planning and preparation should not exceed 30 hours.

   Phase Three, Part Two: The in-country training shall be conducted over a period of 10 working days (5 days per week for 2 separate weeks and should include no more than 20 trainees, to be identified by the Ugandan collaborators, across the 3 pilot studies). The training may be conducted as one comprehensive event, providing overarching skills, knowledge and guidance in a way that it will benefit all three projects; or it may be divided into sections for more focused training on the individual projects; or it may be a combination, with some parts together and some break-out or working group sessions that are more specific. Metabiota should collaborate with the Ugandan POCs and trainers to determine the best approach. The PM, SME1 and trainers' time should not exceed 10 hours per day of training. One day before or after the training for in-person coordination for the pilot studies would be appropriate and should not exceed 8 hours of labor each for the PM, SME1, trainers, and pilot study project leads. It would be acceptable for the trainers and pilot study project leads to be the same people in some cases, as appropriate. PM level of effort should be less than the SME1 given oversight vs. implementation role.

   Phase Three, Part Three: Metabiota will provide management oversight and support to the Ugandan partners in implementation of three pilot field studies. The Ugandan collaborators are in the process of receiving appropriate permits and sample collection can only commence following DTRA Research Oversight Board (ROB) approvals. This activity shall include the procurement of materials and supplies required for the pilot studies, not to exceed $100,000. Metabiota shall work with the Ugandan partners to identify the most efficient, cost-effective way to

procure materials and supplies. Pilot study project leads and field technicians' level of effort should not exceed 680 hours over 8 weeks for pilot study implementation and oversight. There should be no more than 3 pilot study project leads and 11 technicians total supported by Metabiota for all three pilot studies. PM and SME1 hours dedicated to pilot study implementation guidance and oversight should not exceed 60 hours over 8 weeks. PM level of effort should be less than the SME1 given oversight vs. technical SME support role.

The following information and study objectives are provided for reference for proposal development (longer term objectives) and pilot study design/implementation (shorter term objectives). The concept notes developed by the Ugandan collaborators are attached for more detail. The pilot studies should focus on validating the SOPs developed as part of the longer-term study design and proposal development in Phase 2, and on conducting sample collection, lab analysis, and data analysis on a small subset of the various animal populations noted below.

Study 1 - The portion of the project regarding ecological and biosurveillance for Rift Valley Fever (RVF) among domestic and wild animal populations In Uganda shall address the following objectives:

a. Determine the inter-epidemic seroprevalence of RVF in a sample population of relevant domestic animals and wildlife in study areas with clearly identified serotypes. Training in this area should establish better methods for the biosurveillance of epizootic and zoonotic diseases in Uganda.
b. Create/improve contingency plans for RVF outbreaks ready for implementation at the central and local district levels through collaboration with a Ugandan government representative specializing in disease prevention and control as well as outbreak containment in Uganda.

Study 2 - The portion of the project focused on exploring the distribution and characteristics of avian influenza viruses (AIVs) in migratory waterfowl and poultry in Uganda shall include these specific objectives:

a. Establish temporal and spatial distribution and prevalence of AIVs in a sample population of waterfowl and domestic poultry in Uganda.

Study 3 - The portion of the project regarding the genetic and epidemiological insights into the occurrence of peste des petits ruminants virus (PPRV) among sheep, goats, and cattle in northern Uganda shall include these objectives:

a. Determine the prevalence of PPRV in wild animal species in the Kidepo Valley National Park and in goats, sheep, and cattle in Nakapiripirit district of Uganda.
b. Use of RT-PCR to detect the presence of PPRV and competitive ELISA to determine the presence of specific PPRV antibodies.
c. Development of a questionnaire to obtain data on existing control measures, livestock movement patterns, PPRV vaccination practices and prevalence, and other relevant epidemiological and surveillance factors.

For the pilot studies, an appropriate scope would include the following:

Study 1 - Pilot study will include no more than 1,000 serum samples collected from 768 domestic animals (cattle, sheep and goat) and 232 wild animal ruminant and porcine species. Laboratory analysis will be limited to serology (ELISA). Data analysis will include determination of RVF antibody seroprevalence. ELISA will be conducted at the CDC lab at UVRI with participation as appropriate by relevant project collaborators.

Study 2 - Pilot study will include no more than 1,000 serum samples collected from two distinct locations with measurably high levels of interface between the wild birds, domestic poultry, and humans. Samples should be collected from approximately 590 domestic poultry and 410 wild poultry, split evenly between both locations. Laboratory analysis will be limited to ELISA for Influenza A viruses and PCR-based molecular analyses, both to be conducted at NADDEC.

Study 3 - Pilot study will include no more than 1,000 serum samples collected each from two distinct locations. The samples should be from approximately 232 cattle and 768 sheep or goats split evenly between the two locations. Development and piloting a questionnaire to assess PPRV risk factors such as vaccination practices, livestock movement and PPRV control measures will be part of the study. Laboratory analysis will be limited to serological and molecular techniques and data analysis will include determination of PPRV antibody seroprevalence and risk factors for PPRV. ELISA and PPR will be conducted at NADDEC. Metabiota shall not pay for Ugandan government collaborators' time for activities completed as part of their normal job/position and role within their institution. Time shall not be paid to government collaborators for Phase One or Phase Two. Ugandan government collaborators can be compensated for time if they are included as trainers, pilot study project leads, and field technicians for Phase Three. AFENET is not a government organization. CDC will not be compensated for time related to this project. All other POCs listed above are Ugandan government collaborators.

Travel costs for Ugandan participants related to the training event and field studies should only include ground transport, lodging, and per diem costs for participants working a distance of greater than one hour travel time from their home, and any requested ground transport, lodging, or per diem payments shall be cleared with CBEP prior to making commitments to cover these costs. Local participants in the training and field work (living one hour or less from the location of their work that day) will not have travel, lodging, or per diem costs covered.

Phase Three deliverables: Pilot studies implemented; PCR and ELISA results provided to CBEP; results and analyses developed into a pilot project summary of conclusions per project and provided to CBEP; and summary of conclusions provided to the Ugandan national authorities for disease surveillance and control.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

Phase 0: Proposal Development & Initiation (Task 1: March 7-9, 2016)

Metabiota developed a project plan and implementation strategy that aligns with narrative from Box 8. It is anticipated that the plan for TD-022 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as a Research and Data Analyst (RDA)) time to identify the optimal strategy, including required deliverables and other programmatic requirements, which may be a part of project implementation.

The Metabiota PM and PC coordinated with (b)(6) Metabiota's Executive Vice President (EVP) in charge of Science Integration and communication with our regional scientific networks to identify the appropriate SMEs in grantsmanship, experimental design, and biosurveillance to develop and augment project work plans and training materials. Ultimately, this measure was taken to ensure our technical and cost solutions were of the highest quality and sustainable, respectively.

Key assumptions:

1. Metabiota received unofficial communication supporting an extension of its contract from May 16, 2016 to November 15, 2016, this technical response has been developed with the key assumption that this additional time will be allotted to this project.
2. Metabiota assumes DTRA CBEP representatives will provide Metabiota with the concept notes referred to in Box 8 upon the approval of this TD.
3. Metabiota assumes that DTRA CBEP representatives involved in the development of this technical direction will be available for a kick-off meeting to discuss any associated historical engagement with the research collaborators and their respective needs and constraints.
4. Metabiota assumes changes to the budget (e.g., labor categories) will be acceptable to DTRA. An RDA was added to provide flexibility when implementing; however, this has not affected the overall project budget.
5. Metabiota assumes our response should align with narrative from Box 8, which does not align with the figures provided in Box 5.
6. Metabiota assumes that there will be a need to develop training materials during phase 3 part 1 in preparation for phase 3 part 2, and has incorporated the necessary LOE into this technical proposal.
7. Metabiota recognizes guidelines regarding compensation of Ugandan government personnel, as outlined in the Ambassador's memo (8 April 2015). Metabiota has developed a basis of estimate that plans for the highest cost scenario (e.g., no Ugandan government personnel). Upon receiving names and affiliations of all project participants, Metabiota will work with DTRA CBEP to adjust the basis of estimate accordingly.

Phase 1: Work Plan Development (Task 1: March 21-April 22, 2016)

Upon approval of the TD, Metabiota will engage DTRA CBEP to ensure a mutual understanding of project goals and objectives is realized, as well as to obtain the concept notes referred to in Box 8. Metabiota will additionally engage with the eight Ugandan collaborators provided in Box 8 as well as other key stakeholders to obtain additional information such as possible existing work plans, research plans, and training materials for grantsmanship and standard operating procedures for related biosurveillance activities. The Metabiota PM, PC, and SMEs will participate in regular project communications with stakeholders to ensure mutual understanding of project goals, actions, and status.

Metabiota SMEs will conduct a review of the concept notes referred to in Box 8 to establish a baseline for outreach to the identified Ugandan stakeholders. Metabiota will then conduct a series of data calls with these Ugandan stakeholders in order for the SMEs familiarize themselves with the current capabilities and needs of the identified stakeholders, and to identify an appropriate path forward for the work plan. This work plan will identify a timeline of implementation and key milestones and goals for both the development of a detailed research plan (from which, Pilot training and design study will be extracted), as well as development of research proposals (ex. number of proposal submissions, drafts of white papers, etc.). The work plan will include activities providing grantsmanship support, mentorship, and subject matter expertise to key Ugandan stakeholders throughout proposal development, Pilot training and study design and verification, and proposal editing and submission process. Metabiota will submit the work plan draft(s) to DTRA CBEP for review and approval.

Phase 2. Research Plan and Proposal Development (Tasks 1, 4. April 25-June 24, 2016)

Metabiota SMEs will execute the work plan as approved by DTRA CBEP in Phase 1. In doing so, Metabiota will coordinate with the identified Ugandan stakeholders to support the development of a detailed research plan as well as research proposals for epidemiologic studies/bio-surveillance research of RVF, AI, and PPR based on the needs and research interests identified in Phase 1.

Metabiota SMEs will provide support to the Ugandan stakeholders to develop a comprehensive research plan, which will include a detailed list of materials and supplies needed to accomplish the research studies. Moreover, the research plan will include detailed SOPs planned for the collection of samples, including field, laboratory, and data analytics as well as identification of biosafety and biosecurity risks and associated mitigation methods. From this overarching research plan, the Metabiota SMEs and Ugandan stakeholders will develop up to three (3) pilot study plans to test the SOPs developed in the research proposals for their effectiveness and viability of project design. In doing so, the Metabiota SMEs will provide support, mentorship, and expertise in the development, strengthening, and tailoring of these research plans through the submission proves while the Ugandan stakeholders are expected to write and finalize these plans based on the guidance they are provided. Metabiota will submit the final research plan(s), research proposals (including financials) and proposed SOPs for DTRA CBEP's review and approval.

Phase 3, Part 1: Preparation and Coordination for In-country Training and Pilot Studies (Tasks 1, 3, 4: March 28-Aug 11, 2016)

Metabiota will coordinate with the Ugandan stakeholders to identify the most appropriate participants for both training and Pilot study activities. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured for the SMEs and FLNs as needed. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS via the DTRA CBEP Technical Point of Contact.

Metabiota will coordinate with the Ugandan Stakeholders to identify training needs as discussed in Phase 1 and further identified in Phase 2 SOP development. To meet these needs, Metabiota will reuse existing training materials and SOPs for applicable biosurveillance activities as much as possible. However, due to the limited information currently available regarding the intended pilot research plans, Metabiota expects to use SMEs to adapt and develop training materials for effective delivery of training. Metabiota SMEs will develop new materials, which may including slide presentations, videos, etc. to effectively leverage the learning environment. Metabiota will also develop, as appropriate, pre-tests and post-tests for monitoring and evaluation purposes. Training materials, after development and adaptation, will be delivered to DTRA CBEP for technical review and Public Affairs Office approval.

Phase 3, Part 2: Conduction of In-country Training (Task 1, 3, 4: August 4-24, 2016)
Metabiota SMEs will execute a 10-day training activity for up to 20 participants who will be taking part in the three identified pilot studies followed by a 1-day pilot study coordination day with the pilot study leads. Metabiota anticipates a mix of lecture and hands-on training being necessary, however, Metabiota SMEs will adjust the training approach based on the Stakeholder feedback obtained in Phase 1. Metabiota SMEs will be available for virtual "office hours" and to answer written communications from participants as needed throughout the conduction of pilot studies. Metabiota SMEs will also conduct pre-/post- training testing and evaluations and provide feedback to the participants on their performance. FLNs will be used to facilitate training activities to the extent possible.

Phase 3 Part 3: Conduction of Pilot Studies (Task 1, 4, 6: August 18-Oct 26, 2016)
Metabiota SMEs will coordinate with the pilot study leads for the conduction of three pilot field studies, involving up to three pilot study leads and 11 technicians over a period of 8 weeks. Metabiota SMEs will be available for virtual "office hours" and to answer written communications from all participants as needed throughout the conduction of the pilot studies. Metabiota will provide management oversight and support for the conduction of these pilot studies, and will support the Ugandan collaborators in obtaining all required approvals for project continuation, including but not limited to ROB approvals. Metabiota will coordinate with all Stakeholders to identify the necessary materials required to conduct all pilot effort(s). Inclusive of this, Metabiota will provide any necessary support (SME or logistical) to in-country participants when navigating the procurement process. All materials will be identified and procured with sustainment in mind. Metabiota will submit pilot study summaries, including individual pilot study results, analyses, and conclusions as well as a summary of implementation conclusions to DTRA CBEP for communication to the Ugandan national authorities for disease surveillance and control.

Final Project Report
Metabiota PM, PC, and SMEs will all contribute inputs to a final report relaying all actions taken for project implementation through all phases, lessons learned, and identifying next step opportunities upon completion of all deliverables. Results of pre- and post- testing and evaluations from training will also be provided to DTRA CBEP.

Monitoring and Evaluation
In order to develop a comprehensive approach to continuous monitoring and evaluation of this project throughout implementation, Metabiota has developed a comprehensive monitoring and evaluation plan which can be found in the attached Appendix A (Supplemental Information) Part 5.

Risk Management.
In order to anticipate and overcome obstacles included (but not limited to) those listed in Risk Management Matrix found in the attached Supplemental Information Part 2, Metabiota has identified and captured the risks associated with implementing this activity, including contingency planning and course correction measures which will lead to overall regional risk reduction, as outlined in the attached Risk Management Matrix.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$111,755
1003	MATERIALS	$105,270
1004	ODCs	$3,600
1005	TRAVEL	$32,931

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES).

All phases:
Task 1 - Project Coordination: Metabiota will provide consistent and cohesive technical and administrative leadership, direction, program management, implementation oversight, and coordination of all project activities.

Metabiota Program Manager (PM): The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of DTRA CBEP goals at the country and regional level in direct support of this activity and the DTRA CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the RDA to ensure all day-to-day activities for the project are completed on time, and to the quality required by DTRA CBEP.

Metabiota Project Coordinator: The Metabiota RDA will act as a Project Coordinator (PC) throughout the planning and execution of project objectives. The PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will manage the SMEs and FLNs and lead coordination with the Ugandan Stakeholders, to include leading regular coordination calls with the project team and assist in participant coordination

Note* - Metabiota recognizes that the RDA labor category was not included to Box 8 of this TD. Upon review of internal support (e.g., Project Coordinators) and to allow greater project implantation flexibility, Metabiota has proposed the use of an RDA instead of a SME 1 for all project coordination. Importantly, while hours have been added for project coordination, the overall cost for the Project Coordinator role remains unchanged between RDA and SME 1.

A key requirement to ensure effective program initiation, execution, and closeout is ensuring clear communication between all project stakeholders. To ensure the project in managed according to CBEP standards, the PM and PC will be responsible for the following:

Initiation and Program Integration: The PM, with PC support, developed the project proposal to include the project timeline, identification and integration of project requirements, deliverables, subcontractors, SMEs, and trainers to ensure project success. Upon acceptance of the proposal, the

PM will hold a kick-off meeting with team members and partners to review the project plan and schedule, establish routine communication to support project implementation, initiate education on the contract requirements, and begin project implementation. Routine communication with all stakeholders will ensure that all deliverables, including required CDRLs, are met and submitted according to the project schedule and contract requirements.

The PM and PC will work closely with Ugandan POC's identified in Box 8 (Phase 1) to understand their respective vision for this effort, including the development of a work plan for implementing all identified activities. In addition, the PM and PC will coordinate communication between Ugandan POC's and the identified grantsmanship/BSV SME's (e.g., project team members) to ensure alignment of project plans with DTRA CBEP goals when developing the research project design and high-quality and competitive research proposal(s) (Phase 2). Lastly, the PM and PC will coordinate all aspects of training implementation (Phase 3), to include identification and appropriate engagement of FLNs, to include a Study Leads and Study Technicians, to support in-country training and BSV pilot studies (Phase 3) by interfacing regularly (see Communication Management) with project personnel to ensure that in-country and overall project objectives and requirements are met in full. The PM will ensure that FLNs are engaged according to contract and project requirements, and have the experience, background, and skills necessary to support training implementation. FLNs are budgeted at the AFRICOM FLN I rate.

The PM will ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include; overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Project Close out: The Metabiota PM and PC will oversee project closeout, to include completion of grant proposals, wrap-up of training, and finalization and submission of all identified deliverables, including final reports. The PM will also ensure the conclusion of subcontracts and other employment agreements.

Additional communication strategies and programmatic safeguards, including 1) Human Resources Management, 2) Communications Management, 3) Risk Management, 4) Schedule Management, 5) Cost Management, 6) Quality Management, and 7) Technical Resource Management can be found in Appendix A (Supplemental Information).

Task 3 – Qualified Trainers (QT): Metabiota will provide financial support to in-country Qualified Trainers (Phase Three, Parts One and Two) via subcontracts of independent consultant agreements with the yet to be identified trainers. Metabiota recognizes the importance of identifying Ugandan nationals to fill these roles in order to foster relationships and build regional capacity. Metabiota will work with all project stakeholders to identify the appropriate trainers. Currently, it is presumed that all qualified trainers will be billed at the AFRICOM FLN 1 rate.

Task 4 - Subject Matter Experts (SMEs). Metabiota will provide ongoing technical support and expertise through the use of SMEs, to include the development of 1) a work plan for implementing all identified activities, 2) project design, and 3) development of high-quality and competitive research proposal(s). Metabiota SMEs engaged for this effort will provide expertise and input on the development and revision of existing training materials, development and revision of SOPs, as well as mentoring of study participants in grantsmanship and BSV training activities. SMEs will predominately operate remotely throughout Phases 1, 2, and most of Phase 3 and will thus provide mentorship through regular written communication and video teleconferencing with project participants, as necessary. Importantly, the SMEs for this effort are Kenyan nationals and geographically situated in Nairobi, Kenya which will ease operating delays due to time zone differences. Moreover, the identified SMEs possess excellent operational knowledge of East Africa and capabilities in technical writing, biosurveillance techniques, and one health concepts related to infectious disease research. For Phase Three, Part Two, SMEs will implement the training efforts and will work in partnership with FLN project participants to administer the courses, provide QA/QC of all materials, engage trainees in capacity building and scientific discussions supporting training concepts and implementation, and assist in the development of a gap analysis report. SMEs on this effort will be performing the functions of both SMEs and Qualified Trainers (QTs). In line with government guidance, the SMEs will be billing at the SME I labor rate, which is the equivalent cost of QT I.

Metabiota will subcontract Africa Biomedical Laboratories (ABL; Nairobi, Kenya) for SME support of this effort. The use of regionally accessible, African Nationals helps to build regional capabilities and networks, and ensures overall project success.

Task 6 – Research Activity Projects. Metabiota will provide financial support to Study Leads and Study Technicians (Phase Three, Part Three) via subcontracts of independent consultant agreements with the yet to be identified participants. Metabiota will work with all project stakeholders to identify the appropriate project participants. It is currently presumed that all project participants will be billed at the AFRICOM FLN 1 rate.

Note* - Metabiota is aware of guidance provided by the US Ambassador to Uganda regarding salary support to Government of Uganda personnel. If the Trainers, Study Leads, or Study Technicians are direct employees of the Ugandan Government (e.g., Ministry of Health, Agriculture, Wildlife, etc.), Metabiota will adjust their engagement strategy to reflect the Ambassadors guidelines. The budget for this project will be impacted accordingly.

Reach back programmatic support to include finance, accounting, and contracts, will be provided as part of CLIN 1001 (FFP) and will not be separately invoiced.

Materials

As defined in Box 8 (Phase Three, Part Three) this activity shall include the procurement of materials and supplies required for the pilot studies, not to exceed $100,000. Metabiota will work with the Ugandan partners to identify the most sustainable, efficient, cost-effective way to procure materials and supplies for executing BSV pilot studies. The identification of sustainable supplies will be critical for continuing BSV-related activities, which will be described in greater detail within newly developed grant proposals (Phase Two). Any materials procured by Metabiota will be shipped via CLS. If materials can be secured and provided to the trainers/trainees locally or online, shipping will not be required. Additionally, Metabiota will work with SMEs based in Kenya to help identify sustainable and reliable vendors of biomedical supplies.

Given the nature of this effort (e.g., BSV), Metabiota anticipates the need to procure personal protective equipment such as Tyvek suits, gloves, goggles, booties, and N95 respirators, as well as consumables and other paraphernalia such as chlorine, plastic wash basins, buckets, disinfectant sprayers, and anti-fog spray will also be procured. A final list of materials required for this effort will be identified in coordination with all project stakeholders.

Following discussions with all project stakeholders, and if warranted, USB internet devices and internet access cards will be procured and provided to project participants in-country to ensure they have access to a stable internet connection during remote coordination and training sessions, which are included to all phases of this effort. USB internet devices will be procured and tested in-country to avoid shipping charges and to ensure they are

operational on the ground. USB internet devices and access cards will be monitored by the FLNs to ensure they are used for project purposes only, and are maintained according to equipment/material guidelines for the duration of the course.

General office supplies will be procured to support in-country training activities and routine project needs for the execution of the training courses. Office supplies will be procured locally and will include, but may not be limited to, pens, paper, thumb drives, binders, etc.

Metabiota will conduct market research and ensure the best value is secured, maintaining quality and technical requirements for all procurement of goods. Metabiota will coordinate directly with CLS and third-country vendors for all necessary shipping requirements, and will work closely with CLS and DTRO to ensure customs clearance requirements are met and goods delivered according to project timelines and CDRL requirements. Metabiota will ensure cost management for all procured supplies and will coordinate directly with CBEP and CLS to support additional requirements for the hands-on training events to include such items as printing of the developed and adapted training materials, training certificates for participants, and translation services, if needed.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project working abroad. DBA insurance will be applied for labor costs incurred overseas. DBA will be applied to the PM, SMEs/Trainers, FLNs, and other contractors, engaged on this effort, for the duration of the program. Metabiota maintains a blanket DBA policy for all personnel and will add the SMEs and FLNs, and other performers meeting DBA requirements, to this policy as they are engaged. (b)(6) f their total compensation will be billed to the project on a monthly basis. A reconciliation of the total DBA will be performed prior to final invoicing to ensure accuracy of the charges, in accordance with total hours worked. Final invoicing will be adjusted, if necessary, to reflect the final DBA allocation numbers.

Subcontracts

Subcontracts will be issued to SMEs, FLNs, and/or their home organization(s) as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the labor or materials budgets.

Travel

Travel is requested to support the Program Manager, SME, and qualified Ugandan trainers to Kampala, Uganda to implement training efforts for project participants (Phase Three, Part Two). The travel budget represents the estimated amount required; travel on the AEP contract is cost reimbursable.

All Metabiota personnel slated to travel are current with regard to ISOPREP, SERE, and AT/FP trainings, as required by CBEP. Additionally, the SME's leveraged for this effort are Kenyan Nationals and therefore do not require the aforementioned travel trainings/documents.

Our travel budget assumes training will be held in Kampala over the course of two weeks, including one day before or after for in-person coordination, as described in Phase Three, Part Two of this proposal. If, through discussion with the Ugandan stakeholders, an alternative schedule is created or an alterative location is desired, travel costs may be impacted accordingly.

10. FUNDING AUTHORIZED THIS TD:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ _____

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ _____

12a. CURRENT PERIOD OF PERFORMANCE

21-Mar-2016 – 15-May-2016

12b. TD REV PERIOD OF PERFORMANCE

_____

13. CONTRACTOR SIGNATURE AND DATE

(b)(6)

Signature: _____

Date: **21 March 2016**

14. REGION

AFRICOM/ Uganda

15. TECHNICAL POINTS OF CONTACT

AFRICOM Science Manager: (b)(6)

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

Signature _____

Date: _____

Instructions:

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution for TD. Limit to __ pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Limit to __ pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cumulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Contracting Officer Approval: Sign & Date
16. Contracting Officer Representative Approval: Sign & Date

Metabiota: As part of our internal management strategy, (b)(4); (b)(6) leads scientific integration across all programs and communication with our regional scientific networks, which includes Africa Biomedical Laboratories (b)(4); (b)(6) . Within AEP, upon receiving a new TD, we engage leadership, including (b)(4); (b)(6) to identify appropriate scientific personnel. In this instance, Mary was engaged upon receipt of the TD and ABL was identified as the most appropriate SME's for this effort. In light of this, the narrative should have been written in past tense. Importantly (b)(4); (b)(6) time is not billed to AEP.

Additionally, I have attached updated narrative to Box 9 of our TD-022 response. All adjusted narrative has been highlighted yellow.

If you have any additional questions, please let me know if you have any additional questions.

Kind regards.
(b)(6)

On 3/16/16, 1:51 PM, (b)(6) Col USAF DTRA J3-7 (US)"
(b)(6) > wrote:

>There are some comments/questions regarding one of the key assumptions and clarifications on the SME support:
>
>1. Under Key Assumption 7: It assumes the participants engaged are not Ugandan government officials, and therefore fall outside of the U.S. Ambassador's memo (8 April 2015) outlining compensation of Ugandan Government personnel. However, many of the partners involved in the project are part of the UG government and will have to follow the US Ambassador's memo guidelines. In the risk management chart (page 3), the issue is addressed by stating Metabiota will work with the regional partners to ensure that we follow the memo's guidelines and will communicate this to the participants. It is our understanding that if the training or the sampling is outside the home district of the UG government employee, they can receive a stipend (maximum of 140k shillings).
>
>2. Clarification needed on the role of (b)(6) technical resources and SMEs. Task 3 indicates that qualified Ugandan partners will be utilized, but the supplemental information contains the CVs of Kenyan partners. Is there a reason why Ugandan collaborators are not being u d in the training?
>
>3. Clarification also needed on the role of (b)(6) With the identification of (b)(6) as regional SMEs, it is unclear what role (b)(6) will play in identifying SMEs.
>
>Please advise if/how these impact Metabiota's proposed approach.
>
>Thanks,
(b)(6)
Col, USAF
>Program Manager, Academic Engagement Partnership (AEP)
Program
>J3CTB/Cooperative Biological Engagement Program
>8725 John J. Kingman Rd
>Ft Belvoir, VA 22060
>W (b)(6)
>Em
>
>
>

>
>-----Original Message-----
>From: (b)(6)
>Sent: Wednesday, March 09, 2016 7:46 PM
>To: (b)(6)
>Cc:
>Subject: [Non-DoD Source] Re: TD-022: Uganda BSV & Grantsmanship Training
>
>Dear (b)(6)
>
>Please find attached, our response to TD-022. Of note, I have included an unsigned Word document, due to the embedded budget, as well as a signed PDF version.
>
>We look forward to any feedback you may have regarding this submission.
>
>Best regards,
(b)(6)
>Deputy Program Director - AEP
>Metabiota, Inc.
>email: (b)(6)
>Mobile:
>Skype:
>
>CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.
>
>
>
>
>
>
>
>
>
>
>On 3/7/16, 3:52 PM, (b)(6) wrote:
(b)(6)
>>Please find attached, TD-022 for grantsmanship training and SME assistance for coordination of project design, research proposal development and implementation of a pilot biosurveillance study in Uganda. Response to TD is requested by COB 09 March 2016, for a PoP start of 21 March 2016.
>>
>>Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also Cc'd), if you have any technical questions.
>>
>>Thanks,
>>
>(b)(6)

>>Program Manager, Academic Engagement Partnership (AEP)
Program
>>J3CTB/Cooperative Biological Engagement Program
>>8725 John J. Kingman Rd
>>Ft Belvoir, VA 22060
>>W(b)(6)
>>En
>>
>>
>>
>>

From: (b)(6)
To:
Cc:

Subject: RE: [Non-DoD Source] Re: TD-024: CENTCOM Film Narrative
Date: Friday, April 29, 2016 4:18:58 PM
Attachments: CTR-CBEP_AEP_TD-024_CENTCOM Film Narrative_29Apr2016.pdf

(b)(6)

The proposed approach is approved. I've updated blocks 9b (expanded cells to show the 2-digit cents), 9c (updated labor hours for PM and Project Coordinator, from 80 to 72 hours and from 60 to 52 hours respectively, to reflect what is outlined within the embedded excel sheet under the labor tab), 10 & 11 and signed.

Please send back with your signature as well.

Thanks,

(b)(6) Lt Col, USAF
Program Manager, Academic Engagement Partnership (AEP)
Program
J3CTB/Cooperative Biological Engagement Program
8725 John J. Kingman Rd
Ft Belvoir, VA 22060
W (b)(6)
En

-----Original Message-----
From (b)(6)
Sent: Thursday, April 28, 2016 7:44 PM
To (b)(6)
Cc
Subject: Re: [Non-DoD Source] Re: TD-024: CENTCOM Film Narrative

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Good evening (b)(6)

Attached please find both a word version and a signed PDF version of our updated TD response for TD-024.

We have made the requested deletions in the first ask.

We have left in the TD Response Development LOE as that activity is part of the TD and has never been part of the PMO. If this is a new direction I suggest we convene a leadership meeting to discuss.

For the 3rd ask we've reviewed all activities that would be at a significantly reduced risk done in person and have

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	24	

4. TD TITLE	5. TOTAL TD ESTIMATE:
Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East and South Asia.	HOURS **160** DOLLARS: $ **$60,000**

6. CONTRACTING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE (b)(6) EMAIL: (b)(6)	PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to develop a Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East, South Asia and CBEP collaborations in the CENTOM Region in accordance with SOW section 4.3, Task 3.

Metabiota shall develop a 2-5-minute film narrative of the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, which was held at the Royal Scientific Society (RSS) on March 7-8, 2016 in Amman, Jordan. The visual narrative (2-5 minutes) objectives are to document the Jordan conference and describe other science initiatives and the outcomes of CBEP's engagements in the Middle East and South Asia. Metabiota shall develop the specific script in coordination with CBEP CENTCOM regional managers. The footage and interviews that Metabiota has from the conference can be utilized for the visual narrative. The visual narrative should be completed by June 30 2016. Total costs for the narrative shall not exceed $60,000.

Deliverables:

- A short film narrative of 2-5 minutes on 3 DVDs. Final film must go through Public Affairs Office (PAO) approval at DTRA.

The period of performance for this effort will be from May 1 to June 30 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $60,000.00 is requested by 19 April. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Phase 1: Proposal Development & Initiation (Task 1)

Metabiota developed a project plan and implementation strategy that aligns with the narrative from Box 8. It is anticipated that the plan for TD-24 is considered a living document, and it is expected that revisions to the plan may be necessary following stakeholder meetings. During proposal development, Metabiota will use Program Manager (PM) and Project Coordinator (PC, billed as a Subject Matter Expert 1) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Metabiota assumes the following:

1. The PoP assigned to this project will allow enough time for PAO approval of the final video. However, if PAO approval extends beyond the project timeframe, Metabiota will work with AEP regional leadership and the COR to adjust the PoP or allow for final approval of the video outside of the project timeframe, as appropriate and within contractual compliance;
2. Production services required for this project will be complete within 3 weeks allowing enough time for PAO approval of the final video. Should services required extend past this timeframe, Metabiota will work with the CBEP CENTCOM regional leads (and COR, if necessary) to adjust the schedule accordingly;
3. Box 8 of TD-24 states that this project will be completed in accordance with section 4.3, Task 3, which refers to Qualified Trainers (QTs). Based on the requirements, Metabiota has replaced Qualified Trainers with Task 4- Subject Matter Experts. Metabiota assumes this will be acceptable in the execution of the project and engagement of SMEs for this effort.

Project Coordination (Task 1)

The Project team will be led by an experienced Program Manager (PM) (b)(6), and supported by a highly effective Project Coordinator (PC) (b)(6) MPA, to cover Task 1 – Project Coordination. The PM and PC were selected for this project, because they implemented TD-07 the Middle East South Asia Epigenetics and Genomics of Infectious Disease Conference and have the historical knowledge to effectively and efficiently manage the requirements identified for TD-24. In addition, Metabiota will engage (b)(6) from Gryphon Scientific LLC (b)(6) assist in narrative development as a SME under Task 4 (b)(6) the PI and senior TD-07, working closely with (b)(6) (b)(6)

Note: The Metabiota PM confirms subcontractor knowledge of the contractual requirements prior to TD approval.

Phase 2: Preparation (Task 1)

Upon TD approval, the PM will establish routine communications with project team members and CBEP to initiate project implementation. The PM will hold a kick-off meeting within 5 days of approval, with participation from the AEP PMO, project team members and key CBEP stakeholders to review project requirements and ensure a mutual understanding of project goals and objectives is realized. The PM, with assistance from the PC, will identify and engage the videography firm required to execute production of the video. The PM will lead coordination and integration of the project team with CBEP stakeholders to develop the narrative and complete the film.

The project team will ensure that all necessary documentation required pr or to initiating tasks is completed correctly and submitted on time, including CTR CLS Form (CDRL A016) and the Monthly Reports (CDRL A001). The project team will work closely with CBEP regional leads, A&AS support staff, and CLS to ensure that all logistics requirements are coordinated and implemented according to the project schedule and contractual

requirements. The Metabiota Travel Coordinator will coordinate with the project team to assist in the request of travel requirements supporting this effort and will ensure that travel arrangements are secured, immediately following approval by the COR, and in line with the project schedule and execution requirements.

Sub-Phase 2.1: Film Narrative Development and Adaptation (Tasks 1,4)

Metabiota will select and engage a videography firm to produce the film, following sourcing of an appropriate vendor for this engagement. The project team will engage the CBEP regional leads to ensure the technical requirements are clearly determined and will select a service provider at best cost to the government, meeting the requirements identified. Upon engagement of the videography firm, Metabiota will transfer the existing, unedited video footage and interviews collected during the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, held at the Royal Scientific Society (RSS) from 7-8 March 2016 to the firm in order to produce the film. The unedited video footage, interviews, and photographs captured during this event will provide the raw material to effectively and relevantly document the Jordan conference and describe other science initiatives and the outcomes of CBEP's engagements in the Middle East and South Asia. The Metabiota team will work directly with CBEP regional leads and the videography firm to determine the narrative and produce the film.

Sub-Phase 2.2: Coordination for Material Shipment (Task 1)

Shipment of materials and final edited film, if deemed necessary, will be handled via CLS. The project team will deliver the final edited and PAO approved film utilizing the appropriate CLS forms (CDRL A0016 and associated forms) to the CBEP team for appropriate routing, adhering to contract timelines and deliverable schedule. The Metabiota team will work closely with CBEP, A&AS, and CLS staff members to coordinate and execute any logistical requirements as needed.

Phase 3: Implementation (Tasks 1,4)

The Metabiota Project Team will develop and create a 2-5 minute film narrative of the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, held at the Royal Scientific Society (RSS) on March 7-8 2016 in Amman, Jordan. The film will be produced in the English language and may include visual frames of speakers on stage panning of audience, and snapshots of the discussion panels, poster session, and participants asking questions and engaging with speakers. The film may also include short interviews with conference organizers, Scientific Advisory Board members, speakers, presenters, and attendees concerning the importance, relevancy, and benefits of the conference, among other topics. The film will be produced utilizing the technical expertise of the film editors, Metabiota team, and CBEP regional leads to showcase the conference and highlight the scientific initiatives and engagements stemming from this event and CBEP efforts in the region. Suitable background music will be included, as well as sub-titles if deemed necessary. Metabiota will ensure that the film is adjusted/edited according to guidelines received from CBEP, and other key stakeholders. CLS will be engaged to provide logistical support (CDRL A0016), should it be required for this effort. In addition, Metabiota will ensure PAO approval of the film, and will coordinate with the technical team to address any necessary changes prior to completion and final delivery of the product.

To support implementation efforts, the Metabiota PM will travel to Washington DC for meetings with CBEP regional leads and the project team to develop the narrative and review the video footage. The PM will participate in working sessions, brainstorming, and technical development of the film narrative during scheduled in person meetings to ensure execution of the narrative and completion of the project. In addition, the PM will meet with the videography firm to review performance and completion of tasks associated with this project.

Phase 4: Project Closeout (Task 1)

The project team will close out all activities associated with this project, to include final reporting, invoicing, and submission of all relevant CDRLs according to the outlined schedule. In addition, the project team will contribute to lessons learned conversations with CBEP detailing enhancements that could be made should this type of project be repeated, as necessary and requested by CBEP regional leads. Finally, unedited and edited film, and other relevant materials will be provided to CBEP.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$36,810.04
1003	MATERIALS	$10,695.43
1004	ODCs	$0
1005	TRAVEL	$2,372.50
TOTAL		**$49,877.97**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES

Labor

Costs for direct labor to support this activity is required for the following personnel:

Metabiota Program Manager (PM): The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of CBEP goals in direct support of this activity and the CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the SME 1 to ensure day-to-day activities for the project are completed on time, and to the quality required by CBEP. The PM will participate in routine conference calls and other forms of communication with CBEP regional leads and SMEs to ensure project execution. The PM will oversee the subcontractors on this effort, to include the services provided by the videography company in execution of the film. The PM will ensure all contract CDRLs are met and delivered according to the project timeline, and contract requirements.
LOE: 72 hours

Metabiota Project Coordinator: A SME 1 will act as a Project Coordinator (PC) throughout the planning, execution and close out of project objectives and activities. The PC will support the planning and execution of CBEP objectives towards the completion of project goals by participating in proposal development, stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will participate in routine project communications, to include leading regular coordination calls with the project team, CBEP, the videography company, and other key stakeholders.
LOE: 52 hours

SME 3 (b)(6) from Gryphon Scientific will be engaged to support technical development of the film narrative for this project. Having coordinated the MEGA Epigenetics and Genomics of Infectious Diseases Conference with the Metabiota team, she is critical in ensuring the conference message is received and communicated through the film. (b)(6) will work directly with Metabiota and CBEP to develop the narrative, review the footage, and provide subject matter expertise to the team and the production services in development and execution of the film. Should edits or revisions be required following CBEP and PAO guidelines, (b)(6) will participate in editing and refining the narrative to be delivered in the

final product (b)(6) will be responsible for all monthly reporting and deliverables assigned to the Gryphon subcontract by Metabiota in execution of this projec
LOE: 80 hours

Reachback programmatic support to include finance, accounting, and contracts, will be provided as part of CLIN 1001 (FFP) and will not be separately invoiced.

Materials
Training Materials: Two (2) external hard drives will be procured to store the photos, raw video footage, and the final edited video.

Production Services: Metabiota will engage a videography firm to produce the short video for this effort. This will include identification of sound bites, completion of film transcripts, editing, and production of the video.

Metabiota will conduct market research and ensure the best price is secured, maintaining quality and technical requirements for all procurement of goods. Metabiota will coordinate directly with CLS for all shipping requirements, and will ensure cost management for all procured supplies, as necessary to complete the scope of this effort.

Subcontracts
The subcontract with Gryphon Scientific will be modified to include labor hours and materials required for implementation of this project. Costs are captured under the labor and materials budgets.

Travel
Travel costs will be cost reimbursable and provide best cost to the government following JTR regulations. Travel is requested for the PM to meet with the project team, Gryphon SME, CBEP, the videography company, and other key stakeholders to support the execution of Phase 3, and ensure development of the film narrative and completion of the project. The PM will travel to Washington DC to take part in in person meetings, brainstorming activities, narrative development and review of film footage and sound bites developed by the videography company supporting this project.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 36,810.04		
1003	MATERIALS	$ 10,695.43		
1004	ODCs	$		
1005	TRAVEL	$ 2,372.50		
	TOTAL	**$ 49,877.97**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$49,877.97**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$49,877.97**

12a. CURRENT PERIOD OF PERFORMANCE
01-May-2016 – 15-May-2016

12b. TD REV PERIOD OF PERFORMANCE
01-May-2016 – 15-May-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature: . . . . . .

Date:_____

14. REGION
CENTCOM/ Regional

15. TECHNICAL POINTS OF CONTACT
(b)(6) CENTCOM Science Lead,
(b)(6)
(b)(6) CENTCOM Regional Lead,
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X (b)(6)
(b)(6)
COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact Details
8. Description of the Technical Directive Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

reduced the PM's trip to DC to 3 days, the minimal time we believe we could execute those activities.

Thank you for your consideration and we look forward to your reply.

V/R,

(b)(6)
Director, AEP Program
Metabiota, Inc.
(b)(6)

On 4/28/16, 12:20 PM, (b)(6) wrote:

>There are some comments/clarifications regarding labor and travel support:
>
>Block 9a, under Phase 2: Preparation (Task 1):
>(2) Please remove the formal communications plan, schedule and risk register. It is not clear on the need; therefore, please remove.
>
>Block 9b, under Labor Breakout tab embedded within the spread sheet :
>(1) Please remove TD proposal development costs under labor breakout. It includes 8.0 hours for PM and 8.0 hours for SME1. This should be removed as it is part of the FFP PMO.
>
>Blocks 9b & c, under Travel Budget embedded within the spread sheet and Travel section:
>(3) Please reduced PM travel time. The proposed PM (80 hrs) no longer supports a 7-day trip to DC. A 1-2 day trip plus phone/email coordination that includes 40 working hours plus 2 days travel should be sufficient to accomplish the objective (PM 56 hrs).
>
>Please advise if/how these impact Metabiota's proposed approach and costs.
>
>Thanks.
>
(b)(6)
>Program Manager, Academic Engagement Partnership (AEP) Program
>J3CTB/Cooperative Biological Engagement Program
>8725 John J. Kingman Rd
>Ft Belvoir, VA 22060
>W (b)(6)
>Em
>
>
>
>
>-----Original Message-----
>From (b)(6)
>Sent: Tuesday, April 19, 2016 3:09 PM

>To: (b)(6)
>Cc
>Subject: [Non-DoD Source] Re: TD-024: CENTCOM Film Narrative
>
>Dea (b)(6)
>
>Please find attached our technical and cost solution for TD-024. I have included both Word and signed PDF versions of our response.
>
>As always, please let us know if you have any questions that require further clarification.
>
>Best regards.

(b)(6)
>Deputy Program Director - AEP
>Metabiota, Inc.
>email (b)(6)
>Mobil
>Skype
>

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>
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>
>On 4/15/16, 2:00 PM (b)(6)
(b)(6) wrote:
>
>
>>Please find attached, TD-024 for the creation of a film narrative on the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases. Response to the TD is requested by COB 19 April 2016, for a PoP start of 1 May 2016.
>>
>>Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also Cc'd), if you have any technical questions.
>>
>>Thanks,
>>
>> (b)(6)
>>Program Manager, Academic Engagement Partnership (AEP) Program
>>J3CTB/Cooperative Biological Engagement Program

>>8725 John J. Kingman Rd
>>Ft Belvoir, VA 22060
>>W(b)(6)
>>Er
>>
>>
>>
>>

From: (b)(6)
To:
Cc:

Subject: RE: [Non-DoD Source] Re: TD-024: CENTCOM Film Narrative
Date: Thursday, April 28, 2016 12:20:22 PM

(b)(6)

There are some comments/clarifications regarding labor and travel support:

Block 9a, under Phase 2: Preparation (Task 1):
(2) Please remove the formal communications plan, schedule and risk register. It is not clear on the need; therefore, please remove.

Block 9b, under Labor Breakout tab embedded within the spread sheet :
(1) Please remove TD proposal development costs under labor breakout. It includes 8.0 hours for PM and 8.0 hours for SME1. This should be removed as it is part of the FFP PMO.

Blocks 9b & c, under Travel Budget embedded within the spread sheet and Travel section:
(3) Please reduced PM travel time. The proposed PM (80 hrs) no longer supports a 7-day trip to DC. A 1-2 day trip plus phone/email coordination that includes 40 working hours plus 2 days travel should be sufficient to accomplish the objective (PM 56 hrs).

Please advise if/how these impact Metabiota's proposed approach and costs.

Thanks,

(b)(6)
Program Manager, Academic Engagement Partnership (AEP) Program
J3CTB/Cooperative Biological Engagement Program
8725 John J. Kingman Rd
Ft Belvoir, VA 22060
W (b)(6)
Em

-----Original Message-----
From: (b)(6)
Sent: Tuesday, April 19, 2016 3:09 PM
To: (b)(6)
Cc:
Subject: [Non-DoD Source] Re: TD-024: CENTCOM Film Narrative

Dear (b)(6)

Please find attached our technical and cost solution for TD-024. I have included both Word and signed PDF versions of our response.

As always, please let us know if you have any questions that require further clarification.

Best regards,

(b)(6)
Deputy Program Director - AEP
Metabiota, Inc.
email (b)(6)
Mobil
Skype

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On 4/15/16, 2:00 PM (b)(6)
(b)(6)
(b)(6)

>Please find attached, TD-024 for the creation of a film narrative on the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases. Response to the TD is requested by COB 19 April 2016, for a PoP start of 1 May 2016.
>
>Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also Cc'd), if you have any technical questions.
>
>Thanks,

(b)(6)
>Program Manager, Academic Engagement Partnership (AEP)
Program
>J3CTB/Cooperative Biological Engagement Program
>8725 John J. Kingman Rd
>Ft Belvoir, VA 22060
>W (b)(6)
>E
>
>
>
>

From: (b)(6)
To:
Cc:

Subject: Re: Technical Direction 007 PACOM Regional Landscape Analysis
Date: Sunday, June 21, 2015 9:01:04 AM
Attachments: Screen Shot 2015-06-21 at 8.39.02 AM.png

Hi (b)(6)

I apologize for the confusion. When we provided the RoM we were still in no-mans land on labor categories and structure of the T&M so we took a guess at what the labor categories would be and included them in the attached RoM for the T&M portion of the regional landscape analysis (May-the end of August) (I just took a screenshot to avoid having everyone scroll through the entire proposal). During the FFP period we did not have a mechanism in our old accounting system to separate time by activity or the appropriate labor categories for some of our junior researchers so their work came out of overhead. For those who qualified for the Task area focused labor categories we had under the previous contract and justified the high rates. I would estimate that about the equivalent to a quarter of a scientific mentor, a full time SME, and a half time research collaborator would be specific to the PACOM effort.

I believe our rates for the T&M are actually better than our guess in February, but the addition of the PM category and the continued (albeit ramped down) support into Sept and October account for why we are a bit higher than our guess back then.

The international communications are for me (during the WHO APSED TAG meeting I am attending with Lt Col Leba), and for our researchers who reside within the region or are traveling there on other projects.

I hope this clears things up a bit.

Best,

(b)(6)
Deputy Director, AEP
Metabiota, Inc.
E-m (b)(6)
Pho
Sky

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From: (b)(6)
Date: Saturday, June 20, 2015 at 4:59 PM
To: (b)(6)
Cc:

Rough Order of Magnitude (RoM) Cost

LABOR	POSITION	RATE	LOE	MON (May-Aug)*	HRS / MON	TOTAL COST
	[redacted]		1 FTE	4		
			1 FTE	4		
			1 FTE	4		
			1.5 FTE	4		
			1.5 FTE	4		
					Sub-Total:	
MATERIALS						
1	Graphics / materials					$20,000.00
TRAVEL						
1	Regional travel / workshops					$40,000.00
TOTAL						

***Costs from Feb-April included in FFP proposal submitted to DTRA**

(b)(6)

Subject: Re: Technical Direction 007 PACOM Regional Landscape Analysis

Thanks (b)(6)

We will dig into the proposal this week, but a couple of quick questions that I had after a cursory review are:

1. This effort is a continuation of work started in Feb 2015 that had a ROM budget of $800K, and the same PoP end date. What is the level of effort (by LCAT) already completed for this effort from initiation in Feb to the Option Period award date?

2. Why are material costs proposed for international travel communications, when there is no international travel proposed?

Cheers,

(b)(6)

Email: (b)(6)

Mobile:

Sent from my iPhone

On Jun 19, 2015, at 5:45 PM, (b)(6)

Good Afternoon (b)(6)

Attached, please find Metabiota's Budget and Technical Proposal in response to the subject technical direction submitted by DTRA June 8, 2015.

Please feel free to contact me with questions or concerns.

Thank you,

(b)(6)

Program Operations Manager

AEP Contracts Administrator

(b)(6)

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<Metabiota AEP_Budget_TD 007_ PACOM Regional Landscape Analysis_150619.xlsx>

<Metabiota_AEP_Technical Proposal_TD007_PACOM Regional Landscape Analysis_150619.pdf>

<Metabiota_AEP_Transmittal Letter_TD 007 Regional Landscape Analysis_Southeast Asia_150619.pdf>

From: (b)(6)
To:
Cc:

Subject: RE: Technical Direction 011 TAP 4 Ukraine
Date: Tuesday, September 01, 2015 2:51:33 PM

H(b)(6)

Metabiota's proposal submitted on 31 August 2015 in support of Technical Directive 011 is hereby approved for implementation with a ceiling price of $116,880.

The Contractor should use its best efforts to perform the work specified in the Technical Directive within the estimated ceiling price. The Contractor should notify the Contracting Officer in writing whenever it has reason to believe that that costs for this Technical Directive are expected to go over the established ceiling price.

Cheers,
(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Monday, August 31, 2015 4:17 PM
T(b)(6)
C
(
Subject: Re: Technical Direction 011 TAP 4 Ukraine

(b)(6)

Attached please find the revised Budget and Technical Proposal, along with a comment tracker detailing the changes for TD-011.

Best regards,
(b)(6)
Metabiota, Inc.
(b)(6)

On 8/25/15, 10:54 AM, (b)(6)
(b)(6) wrote:

(b)(6)

>

>I am remiss in not getting this back to you sooner. Long story short,
>additional information/clarification (as noted below) is required
>before the team can approve the proposal.
>
>1. Travel - There is a discrepancy between the technical proposal and
>the budget regarding the number of people required to travel to Georgia
>for the Summary Workshop. The proposal identifies two Metabiota
>personnel, but the budget includes the Project Coordinator as a third
>person. Given that previous workshops for this project have been
>successfully completed with two Metabiota personnel, the addition of a
>third person is excessive and should be removed.
>
>Cheers,
>(b)(6)
>
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>
>
>
>
>
>-----Original Message-----
>From: (b)(6)
>Sent: Monday, June 29, 2015 8:23 PM
>To: (b)(6)
>Cc:
>
>CIV
>CTR
>J3-7
>Subject: Technical Direction 011 TAP 4 Ukraine
>
>Good Evening,
>
>Attached, please find Metabiota's Budget and Technical Proposal in
>response to the subject technical directive sent by DTRA on June 25, 2015.
>
>Please feel free to contact me with questions or comments.
>
>Thank you,
>
(b)(6)

>Program Operations Manager
>AEP Contracts Administrator
(b)(6)

>
>
>
>
>

>
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>in error, please delete it without copying or forwarding it, and notify
>the sender of the error by email reply.
>
>

From: (b)(6)
To:
Cc:

Subject: RE: Technical Direction 012 Continued Implementation of Research Activity Project UP-2
Date: Wednesday, September 23, 2015 4:39:23 PM
Attachments: CTR-CBEP_AEP_TD-012RevA_UP2_17Sep2105_approved.pdf

Hi (b)(6)

Please find attached, the approved TD-012RevA with ceiling price of $264,788 and a PoP of 5/16/2015-9/30/2015. Every effort should be made to perform the work specified in the Technical Directive within the estimated ceiling price. Metabiota should notify the Contracting Officer in writing whenever it has reason to believe the costs for this Technical Directive are expected to exceed the established ceiling price.

Cheers,
(b)(6)

Email: (b)(6)
Phone:
Mobile

-----Original Message-----
From: (b)(6)
Sent: Thursday, September 17, 2015 10:46 PM
To: (b)(6)
Cc:
(US
CIV
Subject: Re: Technical Direction 012 Continued Implementation of Research Activity Project UP-2

(b)(6)

Please find attached our response to TD-017. Of note, I have included an unsigned Word document, due to the imbedded Excel file, and a signed PDF Document.

Please note the CRDF subcontract was originally to be billed under ODCs on the FFP portion of the AEP contract. With the move to the T&M, incorporating These costs as labor even at the lowest labor category would cause the price to skyrocket, so we are only registering a fraction of the hours worked ? enough to cover the costs of the Ukrainian labor and all management fees.

We look forward to any comments and feedback re: this proposal.

Best regards,

(b)(6)

Program Director - AEP
Metabiota, Inc.
email (b)(6)
Mobi
Skyp

CONFIDENTIALITY NOTICE: The information contained in this electronic mail

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-c-0104	METABIOTA	12	A

4. TD TITLE	5. TOTAL TD ESTIMATE:
Continued implementation of Research Activity Project UP-2 (Ukraine Project 2)	HOURS: _____ DOLLARS: $ **$225,000.00**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE (b)(6) EMAIL: (b)(6)	PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision changes the end date for the period of performance for this effort to 30 September 2015 and establishes a not to exceed value of $225.000.00 for implementation activities from 16 May 2015 through 30 September 2015.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Technical Approach

Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project phases and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. To achieve these purposes, Metabiota will support activities within three specific project goal categories to learn from the history of these zoonoses while also proactively managing any future threats. These goals and their corresponding tasks are organized to provide long-term, sustainable teams across UP institutes to maintain this and future efforts. Please note the Priority and Task numbers (below) track with the approved UP-2 proposal submitted 5 September 2014 (AEP base year).

Phase 1: Active surveillance for tick-borne diseases, specifically tularemia caused by *Francisella tularensis*
- Priority 1: Task 2.3: PCR and culture diagnostic efforts for *F. tularensis*

Phase 2: Surveillance and environmental sampling for *Bacillus anthracis*
- Priority 2: Task 3.1: Investigating recent and ongoing anthrax outbreaks
- Priority 2: Subtask 3.1.1: Sampling Blood from Animals without Clinical Symptoms (e.g., wild boar)
- Priority 4: Task 3.2: Laboratory analyses for *B. anthracis* for UP-2

Phase 3: GIS, remote sensing, and micro/molecular diagnostics
- Priority 1 (*F. tularensis)*: Task 4.3.1: Space-time Analyses for historical and field data
- Priority 1 (*F. tularensis)*: Task 4.3.2: Remote Sensing
- Priority 1 (*B. anthracis)*: Task 4.2: Ecological Niche Modeling experiments

Process: To achieve these goals, Metabiota provided various logistic, coordination, and performer support across all phases and all stakeholders. Specifically, Metabiota provided support for Subject Matter Expertise to conduct GIS mapping activities with the Institute of Veterinary Medicine (IVM) in July, 2015, materials and equipment support and biosafety cabinet recertification to the IVM, Volyn Oblast Laboratory Center of the State Sanitary and Epidemiological Services of Ukraine (VOLC), and the Ukrainian Center for Disease Control and monitoring of the Ministry of Health of Ukraine (UCDC), and process support and coordination for all stakeholders including identifying critical process requirements to conduct in-country travel and research activities, such as Animal Care and Use Review Office (ACURO).

Moreover, in support of achieving all objectives through Phases 1-3, Metabiota provided support for Ukrainian UP-2 collaborators to conduct research activities via a subcontract with CRDF Global.

Deliverables:
Metabiota:
- Supported the development and submission of animal care and use Review Office (ACURO) applications
- Issued sub-contractual agreements with Kansas State University in support of research activities
- Conducted procurement activities for laboratory equipment and supplies at VOLC, IVM, and UCDC
- Coordinated Biosafety Cabinet re-certification at VOLC, IVM, and UCDC
- Supported stakeholders from the University of Florida to conduct GIS mapping activities at IVM in late July 2015

Metabiota-supported Ukrainian Research Scientists:
UCDC
- Collected tick samples in Volyn oblast in May 2015, which were received and registered. In total, 1862 ticks were delivered and subsequently grouped into 140 pools
- Field material collected during previous iterations of UP-2 was tested for tularemia, including samples from 64 rodents (256 organs/tests) and 171 tick pools (171 tests). All results were negative
- Biological samples were tested using PCR (320 tests: 43 rodents (43 organs / 90 tests) and 115 tick pools (230 tests). Besides, 206 DNA samples (35 rodent spleens and 171 tick pools) were isolated. Studies will be finished in the 4th Quarter. 8 samples showed doubtful results and will be retested in the next quarter

VOLC
- Assessed supply needs for personal protective equipment, including gowns, respirators, gloves, etc., as well as laboratory materials, needed for research and needed for transportation of biological specimens
- Conducted field collection of ticks (1862), which were grouped according to their species into test tubes (25 ticks per tube), and then into

140 pools for delivery to the UCDC EDP laboratory.

IVM

- Developed ecological niche models of *B. anthracis* using GARP (Genetic algorithm for rule set production), in a resolution 16 and 8 km^2
- Developed count models of *B. anthracis* using Negative Binomial Regression in a resolution 16 km^2 and on rayon level
- Conducted soil sampling expedition preparation, including: choice of places selection, getting permissions and coordination with the local veterinary service of Ukraine
- Prepared and reviewed SOPs for soil sampling, materials decontamination and sera testing with ELISA test kit
- Designed and choose primers for PCR testing of soil samples for anthrax pathogen detection

Significant work remains to complete all UP-2 objectives, including sample collection and processing, assay validation, GIS-related analyses, and associated manuscript preparations. As of 1 October 2015, these activities will be implemented under the BTRIC TO-4 contract.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$127,154
1003	MATERIALS	$135,002
1004	ODCs	$2,632
1005	TRAVEL	$0
TOTAL		**$264,788**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Period of Performance

The Period of Performance for this effort is May 16, 2015 to September 30, 2015.

Direct Labor

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Experts were independent consultants, the Metabiota PM will additionally oversee and ensure that all project personnel adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PM will provide management oversight of the project team, including independent consultants throughout the span of the project.

Metabiota Trainer 1: The Metabiota Trainer 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

For the efficient and effective project implementation it is requested to engage the following experts.

Institutional Financial Support (IFS)

Importantly, the original CRDF subcontract was to be billed under ODCs under the FFP portion of the AEP contract. With the move to the T&M, incorporating these costs as labor even at the lowest labor category would cause the price to skyrocket, so we are only registering a fraction of the hours worked – enough to cover the costs of the Ukrainian labor and all management fees.

CRDF Global is an independent nonprofit organization that promotes international science collaborations and full-service grant administration. Metabiota will engage CRDF Global for disbursement of funds to Ukrainian project recipients as well as grant payments to institutions participating in the UP-2 project. CRDF will provide Metabiota with transparent monitoring and detailed reporting of the grant payments.

Via CRDF, Metabiota will provide grant payments to the below institutes to support salaries of participating scientists.

IFS of the Ukrainian Centers for Disease Control (UCDC) and IFS of Volyn Oblast Lab Center (VOLC) personnel – In order to achieve the project's goals and objectives related *F. tularensis* research, it is anticipated that 14 UCDC and eight VOLC personnel will require salary support.

The workload identified for the UCDC staff is based on their previous engagement in the UP-2 Project Development Grant (PDG) and nearly two years of work on the project under the BTRIC. The reimbursement rates are consistent with local norms, prevailing market rates paid under similar projects.

IFS of the Institute of Veterinary Medicine (IVM) personnel - For achieving project goals and corresponding objectives related to *B. anthracis*

research, it is anticipated that staffing of IVM will include up to 15 people.

The reimbursement rates are consistent with local norms, prevailing market rates paid under similar projects.

Materials & Supplies

The detailed list of materials and supplies that are needed to carry out proposed research. their quantity, unit cost and corresponding catalog number are indicated in the project budget. The unit cost is estimated on the basis of the price that the manufacture or vendor provided at their websites. If the specific item's price is unavailable in open sources, the cost is budgeted as an average quote from local vendors. All materials and supplies are defined by the following categories at the corresponding organization.

- ***Materials & Supplies for Laboratories at UCDC*** Within the framework of the project it is expected to obtain up to 3000 samples (both tick pools and rodent's organs) for testing by PCR and bacteriology. Provided costs are required to support research materials, supplies and consumables needed to carry out laboratory analysis at UCDC. Such supplies include, Personal Protection Equipment (PPE) needed to provide biosafety standards (relates to tasks 2.1. 2.2, and 2.3). reagents and supplies for DNA extraction and PCR (relates to task 2.3), reagents and supplies for bacteriological culture (task 2.3), general laboratory and office supplies (i.e., copier paper. writing tools, binding supplies, copier supplies, postage, toners cartridge, other miscellaneous supplies, etc.) that will be used by staff to carry out daily activities on the project and relates to all tasks.
- ***Materials & Supplies for Laboratory at VOLC.*** Provided costs are required for research materials. supplies and consumables needed to carry out sample processing at VOLC (Tasks 2.1, 2.2). Such supplies include items like PPE. dissection tools, disinfectants, vials and tubes. general laboratory supplies that are needed for sample processing, storage, and disposal of used materials.
- ***Materials & Supplies for Tularemia field efforts.*** Provided costs are required for research materials, supplies and consumables needed to carry out field collection efforts. Such supplies include items for setting up field activity, collecting samples clean up, and miscellaneous (drinking water, first aid kits. Insect repellent, etc.).
- ***Materials & Supplies for IVM Laboratories.*** 1000 boar serum and 300 field samples will be provided for testing. Provided costs are required for research materials. supplies and consumables needed to carry out anthrax efforts in the proposed research (tasks 3.1 and 3.2). These supplies will include PPE. needed to provide biosafety standards; sample handling. storage, and dispensing; reagents and supplies for PCR, ELISA, and bacteriology; and other laboratory supplies that that will be used by staff to carry out daily activities.
- ***Materials & Supplies for anthrax field efforts.*** Provided costs are required for research materials, supplies and consumables needed to carry out the proposed research and include item for safety sample collection. transportation, and storage, as well provide BS&S standards.
- ***Biosafety Cabinet (BSC) Re-certification.*** In order to safely manipulate samples collected in the field, all BSC's in all project laboratories required annual re-certification, which was supported via this project.

Other Direct Costs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Kansas State University Subcontract

Direct Labor

Labor rates have been designed to capture KSU overhead costs including indirects and fees.

KSU Subject Matter Expert 3 – Senior personnel salary is requested for the KSU project Principal Investigator, (b)(6) contribution to the project will be; 1) supervision of the completion of the land cover mapping component of the project, 2) lead field excursion to Volyn Oblast, Ukraine to complete validation of land cover mapping component, 3) supervise and contribute to creation of biophysical data layers to support pathogen distribution mapping.

KSU Research and Data Analyst – Graduate student salary is requested to support one research assistant throughout the project. The research assistant will have a 9-month appointment. Duties of the research assistant will include: 1) assist with production of final product and archiving of land cover maps, 2) acquire remote sensing data and assist PI Goodin in creat ng biophysical layers, and 3) other tasks as directed by the project PI.

Materials

Supplies funds will be used to cover annual license costs for the ENVI and Arc-GIS software packages, both of which will be used extensively in this research. The license fee is determined based on estimates of computing needed using each of the two software packages, as a percentage of the total cost of departmental and university site\seat lice

10. FUNDING AUTHORIZED THIS TO REV.

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	127,154.00	5/16/2015	9/30/2015
1003	MATERIALS	$	135,002.00	5/16/2015	9/30/2015
1004	ODCs	$	2,632.00	5/16/2015	9/30/2015
1005	TRAVEL	$	-	5/16/2015	9/30/2015
	TOTAL	**$**	**264,788.00**	5/16/2015	9/30/2015

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV: $ $264,788 11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV: $ $264,788	12a. CURRENT PERIOD OF PERFORMANCE 16 May 2015 –15 May 2016 12b. TD REV PERIOD OF PERFORMANCE 16 May 2015 – 30 Sep 2016	**13. CONTRACTOR SIGNATURE AND DATE** Signature:_____ Date: . . . . .
14. REGION EUCOM	**15. TECHNICAL POINTS OF CONTACT** Ukraine Country Manager (b)(6) (b)(6) EUCOM Regional Science Manager (b)(6) (b)(6)	**16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL** (b)(6) X (b)(6) COR / J3CTB Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Fnnds Authorized
    a. Fnnds Authorized for this TD Revision Exclnsively
    b. Funds Authorized inclusive of all Revisions, Cumulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

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On 9/14/15, 10:22 AM, (b)(6) wrote:

Please find attached RevA to TD-012. This revision changes the PoP end date to 30 Sep 2015, and establishes a NTE value of $225,000.00. Metabiota's response, including technical approach and proposed budget is expected by 17 September 2015.

Cheers,

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Wednesday, September 02, 2015 2:50 PM
To: (b)(6)
Cc:
(U
Subject: Re: Technical Direction 012 Continued Implementation of Research Activity Project UP-2

(b)(6)

Attached please find the revised UP-2 proposal. As before, this one was 99% complete before receiving the new format yesterday.

There are 4 files attached:
1. Comment tracker (Excel file).
2. Budget (Excel file).
3. Technical proposal (management approach, technical approach, budget narrative). This incorporated the following file by reference upon the original submission.
4. Standalone budget narrative. The original inclusion by reference did not update this file. Here, I have updated this file to remove incongruities like relying on CLS for transportation.

As you are aware, UP-2 travel is currently in flux, and today we submitted the response to the RFP for Foreign Local National labor rates. Metabiota will be happy to amend the budget estimates for both travel and labor should it be necessary moving forward, but hope these factors will not be an obstacle to moving forward with approval of TD-012.

Best regards,

(b)(6)

Metabiota, Inc.

(b)(6)

(b)(6)

On 8/25/15, 10:54 AM (b)(6)
(b)(6)

H (b)(6)

I am remiss in not getting this back to you sooner. Long story short, additional information/clarification (as noted below) is required before the team can approve the proposal.

1. Direct Labor - The role of the proposed graduate students is not clear. They are proposed for 2000 hours of direct labor, but the exact nature of the work being done, support being provided, or the expertise that would contribute to the project objectives is not described.

2. Materials - The proposal indicates that new tires are required for the TADR Response Vehicle in order to use the TRV to travel to remote regions; however, it is not clear if Metabiota is proposing to replace those tires - no amount is specified for that expense in the budget.

3. Travel - The purpose of graduate student travel is not clear. They are proposed for two trips, but there is no clear justification as to why the graduate students are required to travel (same issues as for Direct Labor).

Cheers
(b)(6)

(b)(6)
Emai
Phon
Mobi

-----Original Message-----
Fro (b)(6)
Sen
To: (b)(6)
Cc
J3-7
Subject: Technical Direction 012 Continued Implementation of Research Activity Project UP-2

Good Evening,

Attached, please find Metabiota's Budget and Technical Proposal in response to the subject technical directive sent by DTRA on June 25, 2015.

Please feel free to contact me with questions or comments.

Thank you,

(b)(6)

Program Operations Manager
AEP Contracts Administrator
(b)(6)

(b)(6)

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

METABIOTA

June 6, 2016

(b)(6)
Contracting Officer
Defense Threat Reduction Agency (DTRA)/J4COC
8725 John J Kingman Rd. MSC 6201
Fort Belvoir, VA 22060

Sent via email to (b)(6)

Re: FAR 52.244-2 SUBCONTRACTS – Consent to Subcontract with the American Association for the Advancement of Science (AAAS), Academic Engagement Partnership (AEP). Cooperative Threat Reduction (CTR) Contract No. HDTRA1-14-C-0104

Dear (b)(6)

Per FAR 52.244-2 Subcontracts, Metabiota, Inc. (Metabiota) requests Consent to Subcontract with the American Association for the Advancement of Science to support AEP Technical Directive 025. Included with today's request are the following items:

- Draft Subcontract Agreement
- Sole Source Justification
- Price Negotiation Memorandum (PNM)

We will provide a comprehensive subcontractor budget once finalized.

Description of services to be subcontracted:
The subcontractor shall provide training materials appropriate for a one-week proposal-writing workshop in Ethiopia. These materials will be delivered to Metabiota seven weeks prior to the workshop. The subcontractor shall travel to Ethiopia to deliver the one-week workshop.

Following workshop completion, the subcontractor will provide remote mentorship to the Ethiopian scientists. Over 15 weeks, the subcontractor will guide and provide feedback to the scientists on the development of a white paper and full proposal. The subcontractor will also assist the scientists in responding to any comments or requests for revisions regarding the white paper received during this time.

Type of subcontract to be used. Time and Materials.

Proposed Subcontractor. American Association for the Advancement of Science.

Proposed subcontract price. A preliminary estimation total of $51,249.09 USD.

If you have questions or need additional information, I may be reached at (b)(6) (b)(6)

Sincerely,

(b)(6)

DRAFT

SUBCONTRACT

Between

METABIOTA, INC.
425 CALIFORNIA STREET, SUITE 200
SAN FRANCISCO, CA 94104

and

American Association of the Advancement of Science
1200 New York Ave, NW
Washington DC 20005

CONTRACT SUMMARY

Metabiota, Inc. Contract No.:	2016-11-DTRA
Performance Period:	TBD
Contract Type:	Time & Materials (T&M)
Contract Value:	$51,249.09
Project Title:	American Association of the Advancement of Science (AAAS)
Metabiota, Inc. Project Manager:	(b)(6)

AGREEMENT

This Subcontract ("Subcontract") is dated and effective as of May 11, 2016, (between **Metabiota, Inc.** (herein referred to as "Metabiota" or "Prime Contractor"), a California corporation, located at 425 California Street, Suite 200, San Francisco, CA, 94104 and **American Association of the Advancement of Science (AAAS)** located at 1200 New York Ave NW, Washington DC 20005 (herein referred to as "AAAS" or "Subcontractor"). Metabiota and the Subcontractor are each a "Party" and together are the "Parties".

WHEREAS, the Prime Contractor was awarded Contract No. HDTRA1-14-C-0104 for the Academic Engagement Program (AEP) by the Defense Threat Reduction Agency (DTRA); and,

WHEREAS, the Prime Contractor desires to purchase certain services from the Subcontractor for the Client; and,

WHEREAS, the Subcontractor is willing to provide services to the Prime Contractor in accordance with the terms and conditions set forth in this Subcontract.

NOW, THEREFORE, the parties hereby agree as follows:

Article 1. Subcontract Services

1.1 Statement of Work. The Subcontractor shall provide all necessary and qualified personnel, equipment, material and facilities to perform the services (hereinafter, the "Work") as set forth in Attachment A—Scope of Work, which shall include the production of the deliverables ("Deliverables"), attached hereto and incorporated herein by this reference.

1.2 Reporting. The Subcontractor shall submit reports in accordance with the deliverables as described in Attachment A, and as reference in Section 2.3.

The Prime Contractor may request additional information regarding the Subcontractor reports, for which the Subcontractor shall use reasonable best efforts to promptly address. The Prime Contractor will not consider award renewals for Subcontractors who fail to meet reporting requirements on a timely basis.

Article 2. Price, Contract Type, and Payment

2.1 Price and Contract Type. This Subcontract is a Time & Materials Contract Type. The ceiling price of $S1,249.09 is fully funded.

2.2 Labor Rate Table. Subcontractor sha l bill hourly, based on the labor rates and qualifications listed in the table below. Subcontractor shall provide back-up documentation detailing hours worked by position level, according to the Labor Categories and Rate Table below and Attachment B.

Labor Category	Labor Description	Total Hours	Rate	Total Costs
(b)(4); (b)(6)	Terminal degree and relevant experience (minimum of 10 years) in a specific and scarcely populated field.	(b)(4); (b)(6)		
	Terminal degree and relevant experience (minimum of 5 years) in a specific and scarcely populated field.			

(b)(4); (b)(6)	To support indirect costs associated with travel only. For all allowable travel costs, a management fee of (b)(4); (b)(6) nd an indirect cost rate of hall be provided.	(b)(4); (b)(6)		
MATERIALS				$0.00
ODC				$0.00
TRAVEL				$8,979.00
TOTAL CONTRACT PRICE				(b)(4); (b)(6)

2.3 Travel Costs. As per Article 11, Prime Contractor shall coordinate travel and incur any travel costs required for project goals, excepting commute between home and work locations.

If the Prime Contractor is unable to coordinate Subcontractor travel, the following guidelines shall be applied: Subcontractor shall submit Requests for Travel to Prime Contractor in writing at least 75 days prior to international travel and 30 days prior to domestic travel. Requests must include a detailed itinerary for Prime Contractor approval. Travel Costs must be approved in writing before any costs are incurred and would be invoiced separately, with supporting documentation (receipts). Detailed expense reports including itemized receipts must be submitted for reimbursement. No travel cost will be reimbursed without valid receipt. Travel includes airfare, ground transportation, accommodations, and Meals and Incidental Expenses (M&IE). Per diem rates shall be in accordance with Part 301-11 of U.S. Government Federal Travel Regulation (FTR), as per Article 2.2.2 and Federal Acquisition Regulation (FAR) 31.205.46. As per FAR 252.216-9005, there is no fee (profit) on travel costs permitted.

2.4 Invoicing. The Subcontractor shall submit invoices and timesheets monthly, no later than the tenth (10th) of the month to invoices@metabiota.com. The invoices shall contain the following information as shown in Attachment C:

- Reference the subcontract number 2016-11-DTRA
- Unique invoice number
- Invoice date
- Period of Performance
- Total invoice amount
- Cumulative invoice amount
- Name and address of Subcontractor (mailing address if different)
- Subcontract value and funding (in US Dollars)
- Signed by an authorized official of the Subcontractor
- A certification that reads substantially as follows: "The undersigned hereby certifies that the amount being invoiced represents only those amounts properly payable in accordance with the terms and conditions of the Subcontract Agreement and the official financial records"
- Invoices may be submitted via email to the following addresses listed below: **invoices@metabiota.com.**

2.5 Payment. Prime Contractor shall remit payments to the Subcontractor within 30 days of receipt of a valid invoice. Payments shall be made in US Dollars via ACH or Wire to:

Bank Name:	(b)(4); (b)(6)
Bank Address:	
Bank Code:	
Account Number:	
ABA Routing No:	

Article 3. Nature of the Relationship

The Subcontractor and Prime Contractor acknowledge that although the Subcontractor may perform services pursuant to Prime Contractor's general instructions, the Subcontractor in all matters is and shall be deemed to be an independent contractor and the employees or agents of the Subcontractor shall not be or be deemed to be employees or agents of Prime Contractor for any purpose.

The Subcontractor is responsible and liable for the payment of all local sales, use, gross receipts, ad valorem, property, excise or other taxes that may be applicable to this Agreement.

This Agreement does not require either party to enter into further contractual or other relationships with the other. This Agreement does not create a partnership, joint venture, agency, or other business relationship.

Article 4. Period of Performance

4.1 Period of Performance. The period of performance under this Subcontract shall be from May 18, 2016 – November 15, 2016.

4.2 This Subcontract may be terminated for convenience by either party by providing written notice to the other party thirty (30) calendar days in advance of a specified date of termination.

4.3 This Subcontract may be terminated by Prime Contractor upon written notice in the event of substantial failure by the Subcontractor to perform in accordance with the terms of this Agreement. In the event that the Subcontractor shall default in the performance of any obligation to be performed by it under this Agreement and shall fail to correct such default within ten (10) calendar days following written notice thereof from Prime Contractor. The Prime Contractor may hold in abeyance further payments to the Subcontractor and/or terminate this Agreement by written notice to the Subcontractor specifying the date of termination. Following a termination for default of this Agreement, Subcontractor shall be compensated for all completed Services to the extent that Prime Contractor is reimbursed by the Client for the Subcontractor's services.

4.4 Performance by the Subcontractor may be terminated by Prime Contractor at any time by written notice to the Subcontractor in the event that Prime Contractor's funding is terminated.

4.5 In the event of termination, Prime Contractor will reimburse the Subcontractor for allowable Subcontract Costs up to and including non-cancelable obligations properly incurred prior to the date of termination, provided such costs are allowable do not exceed the stated maximum amount payable.

Article 5. Confidentiality

In order to facilitate the Subcontract Services, Prime Contractor may disclose to the Subcontractor information that it considers confidential or proprietary ("Confidential Information"). Confidential or proprietary information is defined as any information disclosed by one Party (the "Disclosing Party") to the other Party (the "Receiving Party") in a written or tangible shall be marked as "Confidential" or "Proprietary", or if disclosed orally or visually, identified as confidential and/or proprietary at the time of disclosure (which is reduced to writing and so marked within a reasonable time, not to exceed sixty (60) days, thereafter). The Subcontractor will hold in confidence any Confidential Information disclosed by Prime Contractor, and will not use Confidential Information for any purpose except in furtherance of the Subcontract Services. The Subcontractor will take reasonable and prudent precautions to protect the Confidential Information disclosed by Prime Contractor pursuant to this Subcontract. This obligation of confidentiality shall not, however, apply to information which: (i) was known to the Subcontractor and was not proprietary to Prime Contractor prior to the time of disclosure, as demonstrated by competent written evidence; (ii) was part of the public domain prior to the time of disclosure; (iii) becomes part of the public domain after the time of disclosure other than through any act or omission of the Subcontractor in breach of this Subcontract; (iv) is independently developed by the Subcontractor or those employees, contractors, and other researchers directly engaged by the Subcontractor without access to, use of, or regard to the Confidential Information disclosed to it by Prime Contractor. The above confidentiality and non-use obligations shall expire five (5) years following the conclusion of the Subcontract Services hereunder.

Article 6. Data, Publications and Copyrights

6.1 Subcontractor's researchers are free to publish the results of research supported thereunder, however, Subcontractor's Principal Investigator shall supply a copy of any such publication(s) or reports to Prime Contractor's Program Manager sixty (60) days prior to release.

b. Subject to its legal ability to do so, Subcontractor hereby grants Prime Contractor license to use data created in the performance of this Agreement to the extent required to meet Prime Contractor's obligations under the Prime Agreement.

d. Subject to its legal ability to do so, Subcontractor hereby grants to Prime Contractor an irrevocable, royalty-free, non-transferable, non-exclusive right and license to reproduce, make derivative works, display, and perform publicly any copyrightable or copyrighted material (including any computer software and its documentation and/ or database) developed and delivered under this Agreement to the extent required to meet Prime Contractor's obligations under the Prime Agreement.

e. Use of Name. Except as otherwise required by applicable law, regulation or order of a governmental agency or court of competent jurisdiction, Farlow shall not use the name of METABIOTA or METABIOTA's directors, officers, employees or representatives in any advertising, news release or other publication, without the prior express written consent from METABIOTA.

Article 7. Authorship and Specimen Ownership

7.1 Publication and Specimen Collections. Authorship on all resulting publications (reports, articles, books, etc.) produced under this Subcontract shall include people from both field and laboratory groups represented by Prime Contractor and Subcontractor only insofar as they contributed to the publication in a substantive way. Prior to initiation of writing any publications, the responsibilities for authorship for any given publication will be agreed upon by consensus of all parties. However, if a consensus by all parties is not reached within a reasonable period of time Subcontractor's Principal Investigator shall be free to publish independently and agrees to acknowledge Prime Contractor and/or give acknowledgment to Prime Contractor's scientists in publications or presentations, as scientifically appropriate. The Subcontractor's Principal Investigator and Subcontractor shall include Prime Contractor's scientists as co-authors on such publications, insofar as they provide any direct contributions to the work. All reports, articles, or books produced under this Subcontract shall conform to Attachment D – Mandatory Flow Down. Nothing in this contract limits the right of Subcontractor to produce derivative work products with the materials or data produced in the execution of this contract with the exception of the terms in this Agreement that require Prime Contractor's consent to use of name. The derivative work performed by the Subcontractor shall be at the risk of the Subcontractor exclusively.

7.2 Specimen Ownership. Inasmuch as applicable, for all resulting specimens collected under Subcontract, Prime Contractor, to the extent required to meet Prime Contractor's obligations under the Prime Agreement, shall retain an unlimited license to use, disclose, reproduce, and prepare derivative works, in any manner and or any purpose, and to have or permit others to do so.

Article 8. Miscellaneous Terms

8.1 Assignment. Subcontractor shall not assign, transfer or Subcontract its rights, interest, or obligations hereunder without the prior written consent of Prime Contractor and modification to this Subcontract.

8.2 Modifications. The terms and conditions of this Subcontract may be changed by mutual agreement of the parties. In the event that the Government modifies the terms and/or conditions of the Prime Agreement, Prime Contractor reserves the right to unilaterally modify the terms and/or conditions of this Subcontract to reflect the Government's modifications and, thereafter, to negotiate an adjustment, to the extent any such unilateral modification increases the Subcontractor's cost of performance, which modification shall be mutually agreed upon by Prime Contractor and the Subcontractor.

8.3 No Waivers. The failure of Prime Contractor to exercise any of its rights under this Subcontract shall not be deemed to be a waiver of such rights.

8.4 Force Majeure. Neither party shall be held liable or responsible to the other party nor be deemed to have defaulted under or breached this Agreement for failure or delay in fulfilling or performing any obligation under this Agreement the extent, and for so long as, such failure or delay is caused by or results from causes beyond the reasonable control of the affected party including but not limited to fires, earthquakes, floods, embargoes, wars, acts of war (whether war is declared or not), insurrections, riots, civil disturbances, strikes, lockouts or other labor disturbances, acts of God or any acts, omissions, or delays in acting by any governmental authority or the other party.

8.5 Export Control. Both parties will comply with any applicable export regulations, including the Export Administration Regulation and the International Traffic in Arms Regulation, in the conduct of the project. Neither party will transmit to the other any technical data, commodity, or technical assistance controlled under the export regulations without first securing the consent of the receiving party and modification of this agreement signed by the authorized official for each party.

8.6 Entire Subcontract. This Subcontract and its Attachments supersedes any prior or contemporaneous oral or written understandings or communications between the parties and constitutes the entire Subcontract of the parties with respect to its subject matter. This Subcontract may not be amended or modified, except in a writing signed by both parties.

8.7 Governing Law. This Subcontract shall be governed by the laws of the State of California.

8.8 No Liability. To the maximum extent permitted by applicable law, in no event shall Prime Contractor and Subcontractor be liable to the other party under any theory including contract and tort (both negligence and strict products liability) for any special, incidental, indirect, or consequential damages whatsoever (including, without limitation, damages for loss of business profit, business interruption, loss of business information, loss of goodwill) arising out of or relating to the Project. In addition, Prime Contractor and Subcontractor shall not be liable for losses, damages, claims, or other liabilities arising out of the other party's activities. It is expressly understood that Prime Contractor, by entering into this Subcontract, has no obligation to provide other or additional support to the Subcontractor for the purposes of this project or any other purposes.

8.9 Indemnification. The parties agree to defend, indemnify and hold one another, their officers, employees and agents harmless from and against any and all liability, loss, expense, attorneys' fees, or claims for injury or damages directly resulting from the performance of this Agreement but only in proportion to and to the extent such liability, loss, expense, attorneys' fees, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of the indemnifying party.

8.10 Severability. The illegality or invalidity of any provisions of this Subcontract shall not impair, affect or invalidate the other provisions of this Subcontract.

8.11 Protection of Research Subjects. If human or animal subjects are used in the conduct of the work performed under this Subcontract, the Subcontractor's protocol must be approved by the Subcontractor's office

for the protection of research subjects in accordance with federal regulations, including 45 C.F.R. Part 46, the Office for Human Research Protections (OHRP), 9 C.F.R. Subchapter A under the Animal Welfare Act, and submitted to Prime Contractor.

8.12 Defense Base Act Insurance. Subcontractor shall be required to obtain Defense Base Act Insurance (DBA) in accordance with FAR clause 52.228-4 Workers Compensation and War Hazard Insurance Overseas. DBA insurance will be funded and provided for the Subcontractor by the Prime Contractor (Metabiota). Subcontractor shall provide all pertinent information to Prime Contractor in order to obtain adequate coverage.

Article 9. Attachments

This following Attachments to this Subcontract are incorporated by reference: Attachment A - Scope of Work and Deliverables, Attachment B – Labor Categories and Rates Table, Attachment C – T&M Invoice Template, and Attachment D – Mandatory Flow Down.

Article 10. Administrative and Technical Contacts

The following individuals shall serve as contacts for communications regarding this Subcontract:

Administrative

(b)(6)
Metabiota, Inc.
425 California Street, Suite 200
San Francisco, CA 94104
Phon(b)(6)
Emai

(b)(6)
American Association of the Advancement of Science
1200 New York Ave NW
Washington DC 20005
Phone(b)(6)
Email:

Technical

PRIME CONTRACTOR

(b)(6)
Metabiota, Inc.
425 California Street, Suite 200
San Francisco, CA 94104
Phon(b)(6)
Email

SUBCONTRACTOR

(b)(6)
American Association of the Advancement of Science
1200 New York Ave NW
Washington DC 20005
Phon(b)(6)
Emai

Article 11. Travel

11.1 All travel shall be in compliance with the Prime Contract and/or Federal Travel Regulation (FTR) as specified in the Federal Acquisition Regulation (FAR) 31.205-46. There is no fee (profit) on travel costs permitted. Subcontractor shall comply with all Department of Defense Travel Requirements including Anti Terrorism Training (AT), Survival Evasion Resistance Escape Training (SERE) and Isolated Personnel Report (ISOPREP) Training.

11.2 Travel Costs and Logistics shall be prov ded by Prime Contractor.

In witness whereof, the parties hereto have executed this Subcontract as of the date last signed below.

Metabiota, Inc.

By: _____
(b)(6)

Date: _____

Subcontractor Name

By: _____
(b)(6)

Date: _____

Attachment A - Scope of Work and Deliverables

Order 01 – Scope of Work

Period of Performance: May 16, 2016 to November 15, 2016

Position/Labor Category/Title: Subject Matter Expert for Grantsmanship Training

Budget:

Labor Category	Labor Description	Total Hours	Rate	Total Costs
(b)(4); (b)(6)	Terminal degree and relevant experience (minimum of 10 years) in a specific and scarcely populated field.	(b)(4); (b)(6)		
	Terminal degree and relevant experience (minimum of 5 years) in a specific and scarcely populated field.			
	To support indirect costs associated with travel only. For all allowable travel costs, a management fee of (b)(4); (b)(6)			
MATERIALS				$0.00
ODC				$0.00
TRAVEL				$8,979.00
TOTAL CONTRACT PRICE				(b)(4); (b)(6)

Metabiota will directly cover lodging, DBA insurance, and relevant in-country logistics expenses

Project Summary:
AAAS will support two teams of Ethiopian researchers in the development of two research proposals purposed for ultimate submission to DTRA BAA Thrust Area 6. This will be accomplished through a 1 week grants writing workshop held in Addis Ababa, Ethiopia followed by a three month long remote mentorship period during which time AAAS will provide feedback and guidance to the scientists on drafts of their proposals.

Phase 1 Workshop Preparation

AAAS will provide materials for the 1-week workshop including PowerPoint presentations, instructor notes, and any additional materials intended for distribution during the workshop. It is anticipated that AAAS may need to create up to 25% new material in order to tailor the materials to the regional scientific landscape and add specific information on proposal submission to DTRA BAA Thrust Area 6.

It is expected that AAAS possesses existing grants writing workshop materials which will be the basis for this adaptation. AAAS will be expected to provide information to Metabiota regarding technical and logistical needs during the workshop. AAAS will also be expected during this time to engage the leaders of each team for the purpose of concept development.

Phase 2 – Technical Writing and Grantsmanship Workshop Implementation

Following workshop materials development and PAO approval, AAAS will conduct a 1-week technical writing and grantsmanship workshop in Addis Ababa, Ethiopia. This workshop will include the delivery of lectures on topics relevant to technical writing, grantsmanship, and specifically to DTRA BAA Thrust Area 6. The workshop will also involve facilitating small group work based on this content. AAAS will direct and guide the workshop participants in the drafting of research proposals as part of the workshop, and will assist both EPHI and NAHDIC led teams in the development and build out of concepts as relevant or necessary.

Phase 3 BAA Materials Development

AAAS will provide remote support to the POCs for each proposal development team in their development of an abstract and white paper suitable for submission to DTRA BAA Thrust Area 6. Upon receipt from the POCs, the SMEs will review the drafts of these documents and provide feedback via telephone, email or skype. Following white paper submission by the proposal development teams, AAAS will support the teams in their development of full proposals.

Phase 4 - Project Closeout and White Paper Response Assistance

AAAS will assist the proposal development teams in responding to comments or requests for revision received in response to white paper submission.

Task 1: Communication

1. The subcontractor will submit at minimum bi-weekly progress reports or as requested by the project manager (PM).
2. The subcontractor will participate in scheduled project conference calls, and will provide insight to include project status, metrics, challenges, and overall implementation reporting.
3. The subcontractor will maintain a record of hours worked and work performed for submission to Metabiota on a biweekly basis.

Task 2: Materials Development

1. The subcontractor will develop training materials appropriate for a 5-day grant writing workshop in Ethiopia on or prior to July 3, 2016 for submission to DTRA CBEP for PAO approval.

Task 3: Delivery of Grantsmanship Workshop

1. The subcontractor will deliver a 5-day grant writing workshop in Ethiopia including lectures and small group discussions
2. The Subcontractor will submit of a summary of the training event for inclusion in a Training Trip Report (TTR) as described under this funding mechanism. The Subcontractor will submit information to the Metabiota PC in support of the TTR no later than 3 days after the training event.

Task 4: Post-Workshop Mentorship and Proposal Development

1. The subcontractor will provide the proposal development teams with written feedback and guidance regarding their abstracts, white papers, and full proposals.
2. The subcontractor will support both NAHDIC and EPHI led teams, respectively, to ensure submission of white papers.
3. The subcontractor will support both NAHDIC and EPHI led teams, respectively, with the development of a full proposals.
4. The Subcontractor will prepare a final report including all actions taken for project implementation through all phases, lessons learned, and identifying next step opportunities upon completion of all deliverables.

Project Deliverables: (these tie with the tasks listed above)

Task	Deliverable	Description	Delivery Date
1	1.1 Progress Reports	The subcontractor will contribute to all monthly progress reporting activity at the request of the PM.	Monthly (Due the last day of each month)
1	1.2 Meeting attendance	The subcontractor will be represented at all regular conference calls deemed relevant by Metabiota to express accomplishments, metrics, risks or barriers to task completion or overall project implementation.	Bi-weekly
1	1.3 Time and Progress Report	The subcontractor will submit bi-weekly reports including an hourly timesheet for each 2-week period and a brief summary of all work performed for those hours. The template for this report will be provided.	Bi-weekly
2	2.2 Workshop Materials	The subcontractor will submit materials for a 5-day grants writing workshop.	Jul 3, 2016
3	3.1 Workshop Delivery	The subcontractor will travel to Ethiopia and deliver a 5-day grants writing workshop	Jul 29, 2016
3	3.2 Post-Training Report	The subcontractor will submit a training summary for the TTR, which will include pre and post-test results and evaluations.	3 days post completion of travel
4	4.1 Post-workshop Mentorship	The subcontractor will provide written feedback to the proposal development teams regarding their draft proposal materials.	Nov 15, 2016
4	4.2 Final Project Report	The subcontractor submit a post-action report relaying all actions taken for implementation of all phases, lessons learned, and identifying next step opportunities upon completion of all deliverables.	Nov 15, 2016

Attachment B – Labor Categories and Rate Table

Ceiling Price
The total ceiling price shall be **$ 51,249.09**.

Payment Schedule
Payments shall be made on a monthly basis.

Labor Rate Table:

Labor Category	Labor Description	Total Hours	Rate	Total Costs
(b)(4); (b)(6)	Terminal degree and relevant experience (minimum of 10 years) in a specific and scarcely populated field.	(b)(4); (b)(6)		
	Terminal degree and relevant experience (minimum of 5 years) in a specific and scarcely populated field.			
	To support indirect costs associated with travel only. For all allowable travel costs, a management fee of (b)(4); (b)(6)			
MATERIALS				$0.00
ODC				$0.00
TRAVEL				$8,979.00
TOTAL CONTRACT PRICE				(b)(4); (b)(6)

Metabiota will directly cover lodging, DBA insurance, and relevant in-country logistics expenses

Currency Type
Payments shall be made in U.S. Dollars.

Attachment C – T&M Invoice Template

Contract PoP:	**Invoice POP:**
Contract Name:	**Invoice #:**
Contract #:	**Remit Payment to:**
Bill To:	
Funded Total:	
Invoice Period of Performance:	

LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED
SME1					
RA					
TOTAL LABOR		0.00	0.00	0.00	0.00

OTHER COSTS INVOICED	CURRENT INVOICE	CUMULATIVE INVOICE
MATERIALS		
OTHER DIRECT COSTS		
TRAVEL		
TOTAL NON LABOR INVOICED	$ -	$ -
TOTAL INVOICE (Labor plus Other Costs)	0	$ -

The undersigned hereby certifies that the amount being invoiced represents only those amounts properly payable in accordance with the terms and conditions of the contract/subcontract and the official financial records.

By: _____
(signature)

Payment should be remitted to: (Please provide details for ACH or Wire Transfer)

Prime Contractor Program Manager:

Approved: _____

Attachment D – Mandatory Flow Down

Section I - Contract Clauses

CLAUSES INCORPORATED BY REFERENCE

52.202-1	Definitions	JAN 2012
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-6	Restrictions On Subcontractor Sales To The Government	SEP 2006
52.203-6	Restrictions On Subcontractor Sales To The Government	SEP 2006
52.203-7	Anti-Kickback Procedures	OCT 2010
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	JAN 1997
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	OCT 2010
52.203-13	Contractor Code of Business Ethics and Conduct	APR 2010
52.203-17	Contractor Employee Whistleblower Rights and Requirement To Inform Employees of Whistleblower Rights	SEP 2013
52.204-4	Printed or Copied Double-Sided on Postconsumer Fiber Content Paper	MAY 2011
52.204-6	Data Universal Numbering System Number	JUL 2013
52.204-10	Reporting Executive Compensation and First-Tier Subcontract Awards	JUL 2013
52.204-13	System for Award Management Maintenance	JUL 2013
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment	AUG 2013
52.209-10	Prohibition on Contracting With Inverted Domestic Corporations	MAY 2012
52.215-2	Audit and Records--Negotiation	OCT 2010
52.215-2 Alt II	Audit and Records--Negotiation (Oct 2010) - Alternate II	APR 1998
52.215-8	Order of Precedence--Uniform Contract Format	OCT 1997
52.215-15	Pension Adjustments and Asset Reversions	OCT 2010
52.215-17	Waiver of Facilities Capital Cost of Money	OCT 1997
52.215-18	Reversion or Adjustment of Plans for Postretirement Benefits (PRB) Other than Pensions	JUL 2005
52.215-23	Limitations on Pass-Through Charges	OCT 2009
52.215-23 Alt I	Limitations on Pass-Through Charges (Oct 2009) - Alternate I	OCT 2009
52.216-7	Allowable Cost And Payment	JUN 2013

52.216-15	Predetermined Indirect Cost Rates	APR 1998
52.219-8	Utilization of Small Business Concerns	JUL 2013
52.219-9	Small Business Subcontracting Plan	JUL 2013
52.219-16	Liquidated Damages-Subcontracting Plan	JAN 1999
52.219-28	Post-Award Small Business Program Rerepresentation	JUL 2013
52.222-2	Payment For Overtime Premiums	JUL 1990
52.222-3	Convict Labor	JUN 2003
52.222-21	Prohibition Of Segregated Facilities	FEB 1999
52.222-26	Equal Opportunity	MAR 2007
52.222-35	Equal Opportunity for Veterans	SEP 2010
52.222-36	Affirmative Action For Workers With Disabilities	OCT 2010
52.222-37	Employment Reports on Veterans	SEP 2010
52.222-40	Notification of Employee Rights Under the National Labor Relations Act	DEC 2010
52.222-50	Combating Trafficking in Persons	FEB 2009
52.222-54	Employment Eligibility Verification	AUG 2013
52.223-6	Drug-Free Workplace	MAY 2001
52.223-18	Encouraging Contractor Policies To Ban Text Messaging While Driving	AUG 2011
52.225-13	Restrictions on Certain Foreign Purchases	JUN 2008
52.227-1 Alt I	Authorization And Consent (Dec 2007) - Alternate I	APR 1984
52.227-2	Notice And Assistance Regarding Patent And Copyright Infringement	DEC 2007
52.227-11 Alt II	Patent Rights--Ownership by the Contractor (Dec 2007) - Alternate II	DEC 2007
52.228-7	Insurance --Liability To Third Persons	MAR 1996
52.232-9	Limitation On Withholding Of Payments	APR 1984
52.232-17	Interest	OCT 2010
52.232-18	Availability Of Funds	APR 1984
52.232-22	Limitation Of Funds	APR 1984
52.232-23	Assignment Of Claims	JAN 1986
52.232-25	Prompt Payment	JUL 2013
52.232-25 Alt I	Prompt Payment (July 2013) Alternate I	FEB 2002
52.232-33	Payment by Electronic Funds Transfer--System for Award Management	JUL 2013
52.232-40	Providing Accelerated Payments to Small Business Subcontractors	DEC 2013
52.233-1	Disputes	JUL 2002
52.233-3	Protest After Award	AUG 1996
52.233-4	Applicable Law for Breach of Contract Claim	OCT 2004
52.236-5	Material and Workmanship	APR 1984
52.236-7	Permits and Responsibilities	NOV 1991
52.242-1	Notice of Intent to Disallow Costs	APR 1984

52.242-3	Penalties for Unallowable Costs	MAY 2001
52.242-4	Certification of Final Indirect Costs	JAN 1997
52.242-13	Bankruptcy	JUL 1995
52.242-15 Alt I	Stop-Work Order (Aug 1989) - Alternate I	APR 1984
52.243-1 Alt V	Changes--Fixed-Price (Aug 1987) - Alternate V	APR 1984
52.245-1 Alt II	Government Property (Apr 2012) Alternate II	APR 2012
52.245-9	Use And Charges	APR 2012
52.246-4	Inspection Of Services--Fixed Price	AUG 1996
52.249-9	Default (Fixed-Priced Research And Development)	APR 1984
52.251-1	Government Supply Sources	APR 2012
52.252-2	Clauses Incorporated By Reference	FEB 1998
52.253-1	Computer Generated Forms	JAN 1991
252.201-7000	Contracting Officer's Representative	DEC 1991
252.203-7000	Requirements Relating to Compensation of Former DoD Officials	SEP 2011
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense-Contract-Related Felonies	DEC 2008
252.203-7002	Requirement to Inform Employees of Whistleblower Rights	SEP 2013
252.204-7006	Billing Instructions	OCT 2005
252.211-7003	Item Identification and Valuation	JUN 2013
252.211-7007	Reporting of Government-Furnished Property	AUG 2012
252.215-7002	Cost Estimating System Requirements	DEC 2012
252.215-7003	Requirement for Submission of Data Other Than Certified Cost or Pricing Data--Canadian Commercial Corporation.	JUL 2012
252.222-7006	Restrictions on the Use of Mandatory Arbitration Agreements	DEC 2010
252.225-7006	Quarterly Reporting of Actual Contract Performance Outside the United States	OCT 2010
252.226-7001	Utilization of Indian Organizations and Indian-Owned Economic Enterprises. and Native Hawaiian Small Business Concerns	SEP 2004
252.227-7013	Rights in Technical Data--Noncommercial Items	JUN 2013
252.227-7016	Rights in Bid or Proposal Information	JAN 2011
252.227-7027	Deferred Ordering Of Technical Data Or Computer Software	APR 1988
252.227-7030	Technical Data--Withholding Of Payment	MAR 2000
252.227-7037	Validation of Restrictive Markings on Technical Data	JUN 2013
252.227-7039	Patents--Reporting Of Subject Inventions	APR 1990
252.232-7003	Electronic Submission of Payment Requests and Receiving Reports	JUN 2012
252.232-7010	Levies on Contract Payments	DEC 2006
252.235-7011	Final Scientific or Technical Report	NOV 2004
252.243-7002	Requests for Equitable Adjustment	DEC 2012

252.244-7000	Subcontracts for Commercial Items	JUN 2013
252.244-7001	Contractor Purchasing System Administration	JUN 2012
252.245-7000	Government-Furnished Mapping, Charting, and Geodesy Property	APR 2012
252.245-7001	Tagging, Labeling, and Marking of Government-Furnished Property	APR 2012
252.245-7002	Reporting Loss of Government Property	APR 2012
252.247-7024	Notification Of Transportation Of Supplies By Sea	MAR 2000
252.251-7000	Ordering From Government Supply Sources	AUG 2012

CLAUSES INCORPORATED BY FULL TEXT

252.216-9005 PROFIT OR FEE ON TRAVEL COSTS (JUL 2008)
Travel shall not be a profit or fee bearing cost element.

252.203-9000 Prohibition on the Use of Senior Mentors (JUNE 2010)
(a) The use of senior mentors by the Defense Threat Reduction Agency (DTRA) enhances the readiness of the Agency across a wide range of strategic, operational, joint, functional, technical, management and development mission areas. The relevant prior service, joint force experience, and unique expertise of these senior consultants provide senior leadership with valuable insights and contribute to the continuous improvement of the Agencies' operations.

(b) For the purposes of this clause, Senior Mentor is defined as a retired flag, general or other military officers (O-6) or retired senior civilian official (Senior Executive Service (SES), Senior Level (SL), Scientific and Professional (ST)) who provides expert experience-based mentoring, teaching, training, advice, and recommendations to senior military officers, staffs and students as they participate in war games, warfighting courses, operational planning, operational exercises, and decision-making exercises.

(c) In accordance with Secretary of Defense Memorandum entitled "Policy on Senior Mentors" dated April 1, 2010, DTRA will hire all senior mentors as highly qualified experts (HQE) under 5 U.S.C. 9903. This policy balances the need for DTRA to secure the specialized knowledge required for these operational exercises with the need to hire such experts in a manner that promotes public trust and confidence.

(d) The Contractor shall not include the use of senior mentors in bids or proposals for services/supplies offered to DTRA.

(e) The Contractor shall include the substance of this clause in all subcontracts.

252.216-9003 CONSULTANTS (OCT 1998)
Services of consultants shall be at rates and for periods approved in advance by the Contracting Officer. Requests for approval shall be submitted to the Contracting Officer sufficiently in advance of the need to use a consultant under this Contract. The request shall include (a) a copy of the proposed consultant agreement, (b) a brief biography of the consultant, and (c) an indication of the area(s) in which consultant's expertise will be utilized and why it is essential for

contract performance. In addition, significant deviations from the dollar amount approved for consultant services, or changes in the consultants to be utilized, must likewise be approved in advance upon submission of adequate justification.

52.217-6 OPTION FOR INCREASED QUANTITY (MAR 1989)
The Government may increase the quantity of supplies called for in the Schedule at the unit price specified. The Contracting Officer may exercise the option by written notice to the Contractor within 60 days. Delivery of the added items shall continue at the same rate as the like items called for under the contract, unless the parties otherwise agree.

52.219-9 SMALL BUSINESS SUBCONTRACTING PLAN (JULY 2013)
(a) This clause does not apply to small business concerns.

(b) Definitions. As used in this clause--

"Alaska Native Corporation (ANC)" means any Regional Corporation, Village Corporation, Urban Corporation, or Group Corporation organized under the laws of the State of Alaska in accordance with the Alaska Native Claims Settlement Act, as amended (43 U.S.C. 1601, et seq.) and which is considered a minority and economically disadvantaged concern under the criteria at 43 U.S.C. 1626(e)(1). This definition also includes ANC direct and indirect subsidiary corporations, joint ventures, and partnerships that meet the requirements of 43 U.S.C. 1626(e)(2).

"Commercial item" means a product or service that satisfies the definition of commercial item in section 2.101 of the Federal Acquisition Regulation.

"Commercial plan" means a subcontracting plan (including goals) that covers the offeror's fiscal year and that applies to the entire production of commercial items sold by either the entire company or a portion thereof (e.g., division, plant, or product line).

"Electronic Subcontracting Reporting System (eSRS)" means the Governmentwide, electronic, web-based system for small business subcontracting program reporting. The eSRS is located at http://www.esrs.gov.

"Indian tribe" means any Indian tribe, band, group, pueblo, or community, including native villages and native groups (including corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act (43 U.S.C.A. 1601 et seq.), that is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs in accordance with 25 U.S.C. 1452(c). This definition also includes Indian-owned economic enterprises that meet the requirements of 25 U.S.C. 1452(e).

"Individual contract plan" means a subcontracting plan that covers the entire contract period (including option periods), applies to a specific contract, and has goals that are based on the offeror's planned subcontracting in support of the specific contract except that indirect costs incurred for common or joint purposes may be allocated on a prorated basis to the contract.

"Master plan" means a subcontracting plan that contains all the required elements of an individual contract plan, except goals, and may be incorporated into individual contract plans, provided the master plan has been approved.

"Subcontract" means any agreement (other than one involving an employer-employee relationship) entered into by a Federal Government prime Contractor or subcontractor calling for supplies or services required for performance of the contract or subcontract.

(c) The offeror, upon request by the Contracting Officer, shall submit and negotiate a subcontracting plan, where applicable, that separately addresses subcontracting with small business concerns, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business concerns, small disadvantaged business, and with women-owned small business concerns. If the offeror is submitting an individual contract plan, the plan must separately address subcontracting with small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns with a separate part for the basic contract and separate parts for each option (if any). The plan shall be included in and made a part of the resultant contract. The subcontracting plan shall be negotiated within the time specified by the Contracting Officer. Failure to submit and negotiate the subcontracting plan shall make the offeror ineligible for award of a contract.

(d) The offeror's subcontracting plan shall include the following:

(1) Goals, expressed in terms of percentages of total planned subcontracting dollars, for the use of small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns as subcontractors. The offeror shall include all subcontracts that contribute to contract performance, and may include a proportionate share of products and services that are normally allocated as indirect costs. In accordance with 43 U.S.C. 1626:

(i) Subcontracts awarded to an ANC or Indian tribe shall be counted towards the subcontracting goals for small business and small disadvantaged business (SDB) concerns, regardless of the size or Small Business Administration certification status of the ANC or Indian tribe.

(ii) Where one or more subcontractors are in the subcontract tier between the prime contractor and the ANC or Indian tribe, the ANC or Indian tribe shall designate the appropriate contractor(s) to count the subcontract towards its small business and small disadvantaged business subcontracting goals.

(A) In most cases, the appropriate Contractor is the Contractor that awarded the subcontract to the ANC or Indian tribe.

(B) If the ANC or Indian tribe designates more than one Contractor to count the subcontract toward its goals, the ANC or Indian tribe shall designate only a portion of the total subcontract award to each Contractor. The sum of the amounts designated to various Contractors cannot exceed the total value of the subcontract.

(C) The ANC or Indian tribe shall give a copy of the written designation to the Contracting Officer, the prime Contractor, and the subcontractors in between the prime Contractor and the ANC or Indian tribe within 30 days of the date of the subcontract award.

(D) If the Contracting Officer does not receive a copy of the ANC's or the Indian tribe's written designation within 30 days of the subcontract award, the Contractor that awarded the subcontract to the ANC or Indian tribe will be considered the designated Contractor.

(2) A statement of --

(i) Total dollars planned to be subcontracted for an individual contract plan; or the offeror's total projected sales, expressed in dollars, and the total value of projected subcontracts to support the sales for a commercial plan;

(ii) Total dollars planned to be subcontracted to small business concerns (including ANC and Indian tribes);

(iii) Total dollars planned to be subcontracted to veteran-owned small business concerns;

(iv) Total dollars planned to be subcontracted to service-disabled veteran-owned small business;

(v) Total dollars planned to be subcontracted to HUBZone small business concerns;

(vi) Total dollars planned to be subcontracted to small disadvantaged business concerns (including ANC's and Indian tribes); and

(vii) Total dollars planned to be subcontracted to women-owned small business concerns.

(3) A description of the principal types of supplies and services to be subcontracted, and an identification of the types planned for subcontracting to --

(i) Small business concerns,

(ii) Veteran-owned small business concerns;

(iii) Service-disabled veteran-owned small business concerns;

(iv) HUBZone small business concerns;

(v) Small disadvantaged business concerns, and

(vi) Women-owned small business concerns.

(4) A description of the method used to develop the subcontracting goals in paragraph (d)(1) of this clause.

(5) A description of the method used to identify potential sources for solicitation purposes (e.g., existing company source lists, the System for Award Management (SAM), veterans service organizations, the National Minority Purchasing Council Vendor Information Service, the Research and Information Division of the Minority Business Development Agency in the Department of Commerce, or small, HUBZone, small disadvantaged, and women-owned small business trade associations). A firm may rely on the information contained in SAM as an accurate representation of a concern's size and ownership characteristics for the purposes of maintaining a small, veteran-owned small, service-disabled veteran-owned small, HUBZone small, small disadvantaged, and women-owned small business source list. Use of SAM as its source list does not relieve a firm of its responsibilities (e.g., outreach, assistance, counseling, or publicizing subcontracting opportunities) in this clause.

(6) A statement as to whether or not the offeror included indirect costs in establishing subcontracting goals, and a description of the method used to determine the proportionate share of indirect costs to be incurred with --

(i) Small business concerns (including ANC and Indian tribes);

(ii) Veteran-owned small business concerns;

(iii) Service-disabled veteran-owned small business concerns;

(iv) HUBZone small business concerns;

(v) Small disadvantaged business concerns (including ANC and Indian tribes); and

(vi) Women-owned small business concerns.

(7) The name of the individual employed by the offeror who will administer the offeror's subcontracting program, and a description of the duties of the individual.

(8) A description of the efforts the offeror will make to assure that small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns have an equitable opportunity to compete for subcontracts.

(9) Assurances that the offeror will include the clause of this contract entitled "Utilization of Small Business Concerns" in all subcontracts that offer further subcontracting opportunities, and that the offeror will require all subcontractors (except small business concerns) that receive subcontracts in excess of $650,000 ($1.5 million for construction of any public facility with further subcontracting possibilities) to adopt a plan similar to the plan that complies with the requirements of this clause.

(10) Assurances that the offeror will --

(i) Cooperate in any studies or surveys as may be required;

(ii) Submit periodic reports so that the Government can determine the extent of compliance by the offeror with the subcontracting plan;

(iii) Submit the Individual Subcontract Report (ISR) and/or the Summary Subcontract Report (SSR), in accordance with paragraph (l) of this clause using the Electronic Subcontracting Reporting System (eSRS) at http://www.esrs.gov. The reports shall provide information on subcontract awards to small business concerns (including ANCs and Indian tribes that are not small businesses), veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns (including ANCs and Indian tribes that have not been certified by the Small Business Administration as small disadvantaged businesses), women-owned small business concerns, and Historically Black Colleges and Universities and Minority Institutions. Reporting shall be in accordance with this clause, or as provided in agency regulations;

(iv) Ensure that its subcontractors with subcontracting plans agree to submit the ISR and/or the SSR using eSRS;

(v) Provide its prime contract number, its DUNS number, and the e-mail address of the offeror's official responsible for acknowledging receipt of or rejecting the ISRs, to all first-tier subcontractors with subcontracting plans so they can enter this information into the eSRS when submitting their ISRs; and

(vi) Require that each subcontractor with a subcontracting plan provide the prime contract number, its own DUNS number, and the e-mail address of the subcontractor's official responsible for acknowledging receipt of or rejecting the ISRs, to its subcontractors with subcontracting plans.

(11) A description of the types of records that will be maintained concerning procedures that have been adopted to comply with the requirements and goals in the plan, including establishing source lists; and a description of the offeror's efforts to locate small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns and award subcontracts to them. The records shall include at least the following (on a plant-wide or company-wide basis, unless otherwise indicated):

(i) Source lists (e.g., SAM), guides, and other data that identify small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns.

(ii) Organizations contacted in an attempt to locate sources that are small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, or women-owned small business concerns.

(iii) Records on each subcontract solicitation resulting in an award of more than $150,000, indicating --

(A) Whether small business concerns were solicited and if not, why not;

(B) Whether veteran-owned small business concerns were solicited and, if not, why not;

(C) Whether service-disabled veteran-owned small business concerns were solicited and, if not, why not;

(D) Whether HUBZone small business concerns were solicited and, if not, why not;

(E) Whether small disadvantaged business concerns were solicited and if not, why not;

(F) Whether women-owned small business concerns were solicited and if not, why not; and

(G) If applicable, the reason award was not made to a small business concern.

(iv) Records of any outreach efforts to contact --

(A) Trade associations;

(B) Business development organizations;

(C) Conferences and trade fairs to locate small, HUBZone small, small disadvantaged, and women-owned small business sources; and

(D) Veterans service organizaions.

(v) Records of internal guidance and encouragement provided to buyers through --

(A) Workshops, seminars, training, etc., and

(B) Monitoring performance to evaluate compliance with the program's requirements.

(vi) On a contract-by-contract basis, records to support award data submitted by the offeror to the Government, including the name, address, and business size of each subcontractor. Contractors having commercial plans need not comply with this requirement.

(e) In order to effectively implement this plan to the extent consistent with efficient contract performance, the Contractor shall perform the following functions:

(1) Assist small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns by arranging solicitations, time for the preparation of bids, quantities, specifications, and delivery schedules so as to facilitate the participation by such concerns.

Where the Contractor's lists of potential small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business subcontractors are excessively long, reasonable effort shall be made to give all such small business concerns an opportunity to compete over a period of time.

(2) Provide adequate and timely consideration of the potentialities of small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns in all "make-or-buy" decisions.

(3) Counsel and discuss subcontracting opportunities with representatives of small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business firms.

(4) Confirm that a subcontractor representing itself as a HUBZone small business concern is identified as a certified HUBZone small business concern by accessing the SAM database or by contacting SBA.

(5) Provide notice to subcontractors concerning penalties and remedies for misrepresentations of business status as small, veteran-owned small business, HUBZone small, small disadvantaged or women-owned small business for the purpose of obtaining a subcontract that is to be included as part or all of a goal contained in the Contractor's subcontracting plan.

(6) For all competitive subcontracts over the simplified acquisition threshold in which a small business concern received a small business preference, upon determination of the successful subcontract offeror, the Contractor must inform each unsuccessful small business subcontract offeror in writing of the name and location of the apparent successful offeror prior to award of the contract.

(f) A master plan on a plant or division-wide basis that contains all the elements required by paragraph (d) of this clause, except goals, may be incorporated by reference as a part of the subcontracting plan required of the offeror by this clause; provided --

(1) The master plan has been approved;

(2) The offeror ensures that the master plan is updated as necessary and provides copies of the approved master plan, including evidence of its approval, to the Contracting Officer; and

(3) Goals and any deviations from the master plan deemed necessary by the Contracting Officer to satisfy the requirements of this contract are set forth in the individual subcontracting plan.

(g) A commercial plan is the preferred type of subcontracting plan for contractors furnishing commercial items. The commercial plan shall relate to the offeror's planned subcontracting generally, for both commercial and Government business, rather than solely to the Government contract. Once the Contractor's commercial plan has been approved, the Government will not require another subcontracting plan from the same Contractor while the plan remains in effect, as

long as the product or service being provided by the Contractor continues to meet the definition of a commercial item. A Contractor with a commercial plan shall comply with the reporting requirements stated in paragraph (d)(10) of this clause by submitting one SSR in eSRS for all contracts covered by its commercial plan. This report shall be acknowledged or rejected in eSRS by the Contracting Officer who approved the plan. This report shall be submitted within 30 days after the end of the Government's fiscal year.

(h) Prior compliance of the offeror with other such subcontracting plans under previous contracts will be considered by the Contracting Officer in determining the responsibility of the offeror for award of the contract.

(i) A contract may have no more than one plan. When a modification meets the criteria in 19.702 for a plan, or an option is exercised, the goals associated with the modification or option shall be added to those in the existing subcontract plan.

(j) Subcontracting plans are not required from subcontractors when the prime contract contains the clause at 52.212-5, Contract Terms and Conditions Required to Implement Statutes or Executive Orders--Commercial Items, or when the subcontractor provides a commercial item subject to the clause at 52.244-6, Subcontracts for Commercial Items, under a prime contract.

(k) The failure of the Contractor or subcontractor to comply in good faith with --

(1) The clause of this contract entitled "Utilization Of Small Business Concerns;" or

(2) An approved plan required by this clause, shall be a material breach of the contract.

(l) The Contractor shall submit ISRs and SSRs using the web-based eSRS at http://www.esrs.gov. Purchases from a corporation, company, or subdivision that is an affiliate of the prime Contractor or subcontractor are not included in these reports. Subcontract award data reported by prime Contractors and subcontractors shall be limited to awards made to their immediate next-tier subcontractors. Credit cannot be taken for awards made to lower tier subcontractors, unless the Contractor or subcontractor has been designated to receive a small business or small disadvantaged business credit from an ANC or Indian tribe. Only subcontracts involving performance in the United States or its outlying areas should be included in these reports with the exception of subcontracts under a contract awarded by the State Department or any other agency that has statutory or regulatory authority to require subcontracting plans for subcontracts performed outside the United States and its outlying areas.

(1) ISR. This report is not required for commercial plans. The report is required for each contract containing an individual subcontract plan.

(i) The report shall be submitted semi-annually during contract performance for the periods ending March 31 and September 30. A report is also required for each contract within 30 days of contract completion. Reports are due 30 days after the close of each reporting period, unless otherwise directed by the Contracting Officer. Reports are required when due, regardless of

whether there has been any subcontracting activity since the inception of the contract or the previous reporting period.

(ii) When a subcontracting plan contains separate goals for the basic contract and each option, as prescribed by FAR 19.704(c), the dollar goal inserted on this report shall be the sum of the base period through the current option; for example, for a report submitted after the second option is exercised, the dollar goal would be the sum of the goals for the basic contract, the first option, and the second option.

(iii) The authority to acknowledge receipt or reject the ISR resides--

(A) In the case of the prime Contractor, with the Contracting Officer; and

(B) In the case of a subcontract with a subcontracting plan, with the entity that awarded the subcontract.

(2) SSR.

(i) Reports submitted under individual contract plans--

(A) This report encompasses all subcontracting under prime contracts and subcontracts with the awarding agency, regardless of the dollar value of the subcontracts.

(B) The report may be submitted on a corporate, company or subdivision (e.g. plant or division operating as a separate profit center) basis, unless otherwise directed by the agency.

(C) If a prime Contractor and/or subcontractor is performing work for more than one executive agency, a separate report shall be submitted to each executive agency covering only that agency's contracts, provided at least one of that agency's contracts is over $650,000 (over $1.5 million for construction of a public facility) and contains a subcontracting plan. For DoD, a consolidated report shall be submitted for all contracts awarded by military departments/agencies and/or subcontracts awarded by DoD prime Contractors. However, for construction and related maintenance and repair, a separate report shall be submitted for each DoD component.

(D) For DoD and NASA, the report shall be submitted semi-annually for the six months ending March 31 and the twelve months ending September 30. For civilian agencies, except NASA, it shall be submitted annually for the twelve month period ending September 30. Reports are due 30 days after the close of each reporting period.

(E) Subcontract awards that are related to work for more than one executive agency shall be appropriately allocated.

(F) The authority to acknowledge or reject SSRs in eSRS, including SSRs submitted by subcontractors with subcontracting plans, resides with the Government agency awarding the prime contracts unless stated otherwise in the contract.

(ii) Reports submitted under a commercial plan--

(A) The report shall include all subcontract awards under the commercial plan in effect during the Government's fiscal year.

(B) The report shall be submitted annually, within thirty days after the end of the Government's fiscal year.

(C) If a Contractor has a commercial plan and is performing work for more than one executive agency, the Contractor shall specify the percentage of dollars attributable to each agency from which contracts for commercial items were received.

(D) The authority to acknowledge or reject SSRs for commercial plans resides with the Contracting Officer who approved the commercial plan.

(iii) All reports submitted at the close of each fiscal year (both individual and commercial plans) shall include a Year-End Supplementary Report for Small Disadvantaged Businesses. The report shall include subcontract awards, in whole dollars, to small disadvantaged business concerns by North American Industry Classification System (NAICS) Industry Subsector. If the data are not available when the year-end SSR is submitted, the prime Contractor and/or subcontractor shall submit the Year-End Supplementary Report for Small Disadvantaged Businesses within 90 days of submitting the year-end SSR. For a commercial plan, the Contractor may obtain from each of its subcontractors a predominant NAICS Industry Subsector and report all awards to that subcontractor under its predominant NAICS Industry Subsector.

52.244-2 SUBCONTRACTS (OCT 2010)
(a) Definitions. As used in this clause--

Approved purchasing system means a Contractor's purchasing system that has been reviewed and approved in accordance with Part 44 of the Federal Acquisition Regulation (FAR).

Consent to subcontract means the Contracting Officer's written consent for the Contractor to enter into a particular subcontract.

Subcontract means any contract, as defined in FAR Subpart 2.1, entered into by a subcontractor to furnish supplies or services for performance of the prime contract or a subcontract. It includes, but is not limited to, purchase orders, and changes and modifications to purchase orders.

(b) When this clause is included in a fixed-price type contract, consent to subcontract is required only on unpriced contract actions (including unpriced modifications or unpriced delivery orders), and only if required in accordance with paragraph (c) or (d) of this clause.

(c) If the Contractor does not have an approved purchasing system, consent to subcontract is required for any subcontract that

(1) Is of the cost-reimbursement, time-and-materials, or labor-hour type; or

(2) Is fixed-price and exceeds—

(i) For a contract awarded by the Department of Defense, the Coast Guard, or the National Aeronautics and Space Administration, the greater of the simplified acquisition threshold or 5 percent of the total estimated cost of the contract; or

(ii) For a contract awarded by a civilian agency other than the Coast Guard and the National Aeronautics and Space Administration, either the simplified acquisition threshold or 5 percent of the total estimated cost of the contract.

(d) If the Contractor has an approved purchasing system, the Contractor nevertheless shall obtain the Contracting Officer's written consent before placing the following subcontracts:

Subcontracts or Consultants (for Consultants see DTRA 252 216-9003 in Section H)

(e)(1) The Contractor shall notify the Contracting Officer reasonably in advance of placing any subcontract or modification thereof for which consent is required under paragraph (b), (c), or (d) of this clause, including the following information:

(i) A description of the supplies or services to be subcontracted.

(ii) Identification of the type of subcontract to be used.

(iii) Identification of the proposed subcontractor.

(iv) The proposed subcontract price.

(v) The subcontractor's current, complete, and accurate certified cost or pricing data and Certificate of Current Cost or Pricing Data, if required by other contract provisions.

(vi) The subcontractor's Disclosure Statement or Certificate relating to Cost Accounting Standards when such data are required by other provisions of this contract.

(vii) A negotiation memorandum reflecting—

(A) The principal elements of the subcontract price negotiations;

(B) The most significant considerations controlling establishment of initial or revised prices;

(C) The reason certified cost or pricing data were or were not required;

(D) The extent, if any, to which the Contractor did not rely on the subcontractor's certified cost or pricing data in determining

the price objective and in negotiating the final price;

(E) The extent to which it was recognized in the negotiation that the subcontractor's certified cost or pricing data were not accurate, complete, or current; the action taken by the Contractor and the subcontractor; and the effect of any such defective data on the total price negotiated;

(F) The reasons for any significant difference between the Contractor's price objective and the price negotiated; and

(G) A complete explanation of the incentive fee or profit plan when incentives are used. The explanation shall identify each critical performance element, management decisions used to quantify each incentive element, reasons for the incentives, and a summary of all trade-off possibilities considered.

(2) The Contractor is not required to notify the Contracting Officer in advance of entering into any subcontract for which consent is not required under paragraph (c), (d), or (e) of this clause.

(f) Unless the consent or approval specifically provides otherwise, neither consent by the Contracting Officer to any subcontract nor approval of the Contractor's purchasing system shall constitute a determination—

(1) Of the acceptability of any subcontract terms or conditions;

(2) Of the allowability of any cost under this contract; or

(3) To relieve the Contractor of any responsibility for performing this contract.

(g) No subcontract or modification thereof placed under this contract shall provide for payment on a cost-plus-a-percentage-of-cost basis, and any fee payable under cost-reimbursement type subcontracts shall not exceed the fee limitations in FAR 15.404-4(c)(4)(i).

(h) The Contractor shall give the Contracting Officer immediate written notice of any action or suit filed and prompt notice of any claim made against the Contractor by any subcontractor or vendor that, in the opinion of the Contractor, may result in litigation related in any way to this contract, with respect to which the Contractor may be entitled to reimbursement from the Government.

(i) The Government reserves the right to review the Contractor's purchasing system as set forth in FAR Subpart 44.3.

(j) Paragraphs (c) and (e) of this clause do not apply to the following subcontracts, which were evaluated during negotiations:

(End of clause)

252.203-9005, Implementation of Contractor Code of Business Ethics and Conduct (Dec 2008)

In accordance with FAR clause 52.203-13, Contractor Code of Business Ethics and Conduct, the designated "agency Office of the Inspector General" is the DoD OIG at the following address:

Office of the Inspector General
United States Department of Defense
Investigative Policy and Oversight
Contractor Disclosure Program
400 Army Navy Drive, Suite 1037
Arlington, VA 22202-4704
Toll Free Telephone: 866-429-8011

252.204-9001 UNIVERSITIES DISCLOSURE OF INFORMATION (JUL 2009)

(a) The Contractor shall not release to anyone outside the Contractor's organization any unclassified information, regardless of medium (e.g. film, tape, document) pertaining to any part of this contract or any program related to this contract, unless the information results from fundamental research, as defined below:

> "Fundamental research" as used in this clause, means basic and applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community, as distinguished from proprietary research and from industrial development, design, production, and product utilization, the results of which ordinarily are restricted for proprietary or national security reasons.

(b) The Contractor shall confer and consult with DTRA on technical aspects of its research and submit technical documents intended for publication to the cognizant DTRA technical representative(s) for review, a minimum of 45 days prior to publication or other dissemination. The purpose of the DTRA review period is to ensure the government ample opportunity to provide comments and suggestions for the researchers' consideration.

252.204-9004 IMPLEMENTATION OF DISCLOSURE OF INFORMATION (JUN 2007)
In accordance with DFARS 252.204-7000 Disclosure of Information, any information to be released shall be submitted at least 45 days before the proposed release date, for security and policy review. Submit one copy to each below:

(a) Office of Public Affairs, DTRA/DIR/COS/PA, 8725 John J. Kingman Dr, MS 6201, Ft Belvoir VA 22060-6201.
(b) Contracting Officer
(c) Program Manager

METABIOTA

SOLE SOURCE JUSTIFICATION FORM

- This form must accompany Subcontract Request Forms whenever a sole source purchase is requested. (*)

1. Vendor proposed as a Sole Source: The American Association for the Advancement of Science
2. Please check all applicable categories below and provide additional information where indicated.
   - ☐ a. The requested product is an integral repair part or accessory compatible with existing equipment.
     - Existing Equipment Description: _____
     - Manufacturer/Model Number: _____
     - Age of the Equipment: _____ Current Value: _____
     - Asset or Original PO Number: _____
   - ☐ b. The requested product has unique design/performance specifications or quality requirements, which are essential to my research or teaching needs and are not available in comparable products.
   - ☐ c. The requested product is essential in maintaining research continuity and/or to remain in compliance with established university standards. (Check applicable category below.)
     - ☐ Requested product is being used in continuing research experiments.
     - ☐ I am collaborating with other investigators who have used this product and for compatibility of research results, I must also use it.
     - ☐ I have standardized the requested product and the use of another brand/model would require considerable time and funding to evaluate.
   - ☐ d. The requested product is one with which I and/or my staff have specialized training/extensive expertise, and retraining would incur substantial cost in time/money.
   - ☐ e. The requested provider of services has unique or exclusive capabilities that no other provider has.
   - ☒ f. Other factors are involved. (Provide detailed explanation below.)
3. Provide a detailed explanation for categories checked in 2a. through 2f. above. **(Make certain to include applicable information such as the activity, deliverables, supplies and/or services being procured, and where the work will be performed. Attach additional sheets if necessary.)**

Phase 1: Workshop Preparation

The technical writing workshop will require materials covering various aspects of proposal writing adapted to the regional scientific landscape. AAAS has developed a curriculum on grantsmanship and technical writing adapted for use in workshops in 17 countries for over 4,200 researchers. The curriculum is informed by experience with thousands of proposals from non-native English speakers submitted to review by American scientists (analogous to the DTRA CBEP funding mechanism). No other grantsmanship curriculum exists that is specifically designed to teach in a cross-cultural setting with such a depth of insight into the challenges faced by applicants from emerging economies.

The materials will need to be adapted and submitted for PAO approval with a very short turnaround time. A version of this curriculum has been tailored for use in CBEP grantsmanship workshops for nearly 200 researchers in Georgia and Azerbaijan from 2012-2015. The core materials have been reviewed by DTRA on several occasions, so review of materials adapted for Ethiopia will likely be straightforward. Through measured long-term impacts, the curriculum has proven highly effective for the CBEP researchers who are frequently not in academia. The curriculum provided by AAAS is the only existing material appropriate for the Ethiopian technical writing workshop that could be identified.

Phase 2: Workshop Implementation

The workshop implementation will require trainers that are experienced in delivering the grantsmanship materials as well as familiar with challenges particular to scientists in operating in emerging economies seeking funding from international agencies. AAAS has extensive experience delivering these materials and has delivered workshops or held STEM consultations in Algeria, Morocco, Egypt, Cote d'Ivoire, Nigeria, Kenya, and Rwanda. AAAS also has a proven track record of successful and sustainable implementation as evidenced by the number of successful proposal submissions following workshop implementation. For example, the total value of funded proposals resulting from a workshop for CBEP in Tblisi, Georgia in 2012 was $105,000 (bringing more funding into the Georgian CBEP community within 10 months than the cost of workshop implementation). AAAS is the only entity that has proven capabilities successfully implementing the identified materials.

Phases 3 and 4: BAA Materials Development and White Paper Response Assistance

The mentorship phase following the workshop requires SMEs that are experienced in proposal development and capable of guiding teams of international researchers remotely. The AAAS workshop instructors and mentors have written successful research proposals and STEM program proposals funded by NSF, NIH, USAID, Los Alamos National Labs, the Ford Foundation, the U.S. Department of State, the U.S. Department of Energy, the Henry Luce Foundation, the European Commission, and the United Nations. At least one AAAS workshop instructor has written substantive sections of large proposals submitted to DTRA for STEM-security related international program funding. AAAS has worked remotely with researchers to develop thousands of technical documents, including research proposals from non-native English speakers for review in the U.S. AAAS has also led and coordinated the development and editing of technical white papers by teams of individual researchers each remotely located. AAAS is therefore uniquely well positioned to offer guidance to Ethiopian researchers on proposal writing for submission to the DTRA BAA.

4. Was an evaluation of other equipment, products, or services completed? ☐ YES ☒ NO.
   If yes, please attach the results of the evaluation.

5. List below the names of each individual who was involved in making the recommendation to sole source this purchase.
   (b)(6)

(*) It is the intent of Metabiota, Inc. to maintain competitive bidding, however sole source selections may sometimes be necessary. Subcontract Requests for goods and services that are to be purchased from a specific vendor or limited to a specific brand, where substitutes to the suggested vendor or brand are unacceptable, must be accompanied by a written justification explaining the circumstances that make alternatives unacceptable. ***The principal investigator, program manager, or director must sign the justification.*** *The individual signing the justification must disclose in writing whether or not he/she has a potential or actual conflict of interest. Metabiota employees who have a business relationship or financial interest (including that of a near relative) in the suggested vendor, who are conducting research for the suggested vendor, or who have received or anticipate receiving gifts, honorarium, or research grants from the suggested vendor must disclose the conflict of interest.*

The Contracts Manager will determine whether the justification is appropriate. Sole source justifications are to be supported by factual statements that shall pass an internal or Federal audit. It is the salient features of a product that make it a sole source.

5. I certify that I have read the above statement, that the information entered on this form is factual and that a signed copy of this Sole Source Justification document, and any associated disclosure statements, will be kept on file with the Contracts department.

(b)(6)

Signatu

(b)(6)

Printed Name and Title **

02JUN16

Date

**Must be Principal Investigator or Program Manager

METABIOTA

PRICE NEGOTIATION MEMORANDUM
METABIOTA, INC.

GENERAL INFORMATION:

Contractor name	American Association for the Advancement of Science
Proposal number	HDTRA1-14-C-0104

DESCRIPTION OF THE CONTRACT ACTION:

Description of the work (provide a brief summary of the general scope of the work encompassed by the action):
AAAS will collaborate with Metabiota to provide grantsmanship, technical writing, and training administration to the AEP team from 1 June 2016 – 15 November 2016. AAAS will provide remote and on-site grantsmanship mentoring, editorial guidance, implementation of mentoring work plans, and identification of future mentorship stakeholder needs.

This collaboration will build a long-term partnership between key research and technical centers in Ethiopia and will nourish hypothesis-driven and translational research programs that result in sustainable funding and potential academic publications.

NEGOTIATING PARTIES:

Identify the name position, organization and phone number/email of each person representing the contractor and the Government in the negotiation. Indicate the date(s) of the negotiation.

Contractor	Name	Position	Organization	Phone/Email
Metabiota, Inc.	(b)(6)		Metabiota, Inc.	(b)(6)
Metabiota, Inc.			Metabiota, Inc.	
Metabiota, Inc.			Metabiota, Inc.	
AAAS			AAAS	

COST ANALYSIS:

METABIOTA

The proposed subcontract is a sole source Time and Materials (T&M) contract evaluated upon completed technical and cost proposal from AAAS to provide subject matter expertise and support to overall operational activities in the Metabiota AEP contract that have a technical writing and grantsmanship component. The T&M contract issued to AAAS was determined to be the most appropriate mechanism for these services based on the fair and reasonable pricing submitted by the subcontractor and the Metabiota team's determination that this would be the most effective means to ensure efficient performance in the best interest of the government.

This determination was made following an internal review of the subcontractor's hourly rates by labor category by Metabiota's financial, contract, and technical departments to determine overall reasonableness of the cost. The rates provided by the subcontractor were reasonable compared to those of other service providers with similar contract tasks and levels of experience and expertise. Additionally, the rate structure presented by Watermark is substantially comparable to and fits within Metabiota's own rate structure with the US government client.

Labor Category	Description	Rate
(b)(4); (b)(6)	Possess unique credentials that provides expert advisor/contributions in complex and critical efforts. Must be skilled in providing unique, subject matter expertise in specific functional, technical, professional or policy areas. Responsibilities include: conducting sophisticated assessments of complex problems in areas of expertise; designing approaches to problems, analyzes and evaluating the work of others, and applying broad understanding of the state of the practice. Broadly recognized as authoritative, trusted sources of expertise within their community of practice.	(b)(4); (b)(6)

METABIOTA

August 24, 2015

(b)(6) Contracting Officer
Defense Threat Reduction Agency (DTRA)
8725 John J Kingman Rd, #6201
Fort Belvoir, VA 22060
(b)(6)

Sent via email to (b)(6)

Re: FAR 52.244-2 SUBCONTRACTS – Consent to Subcontract with Global Viral Academic Engagement Partnership (AEP), Cooperative Threat Reduction (CTR) Contract No. HDTRA1-14-C-0104

Dea(b)(6)

Per FAR 52.244-2 Subcontracts, Metabiota, Inc. (Metabiota) requests Consent to Subcontract with Global Viral to support Technical Direction 001 Implementation of Personal Protective Equipment (PPE) Donning and Doffing Biosafety Training in Cameroon approved via email on 23 July 2015. Included with today's request are the following items:

- Draft Subcontract Agreement
- Sole Source Justification

We will provide a comprehensive subcontractor budget once finalized.

Description of services to be subcontracted.

- Collaboration with Stakeholders including monthly meetings.
- Review and adapt training materials.
- Participate in training implementation.

Type of subcontract to be used. Time and Materials

Proposed Subcontractor. Global Viral

Proposed subcontract price. A preliminary estimation total of $9,710.80 USD

If you have questions or need additional information, I may be reached at 301.335.2982 or urichelieu@metabiota.com.

Sincerely,

(b)(6)

METABIOTA

DRAFT

SUBCONTRACT

Between

METABIOTA, INC.
425 CALIFORNIA STREET, SUITE 200
SAN FRANCISCO, CA 94104

and

Global Viral
425 CALIFORNIA STREET, SUITE 200
SAN FRANCISCO, CA 94104

CONTRACT SUMMARY

Metabiota, Inc. Contract No.:	2015-14-DTRA
Performance Period:	June 1, 2015 – December 31, 2015
Contract Type:	Time & Materials (T&M)
Contract Value:	$10,000.00
Project Title:	AEP – VHF/PPE CAMEROON
Metabiota, Inc. Project Manager:	(b)(6)

METABIOTA

AGREEMENT

This Subcontract ("Subcontract") is dated and effective as of the July 1, 2015 ("Effective Date"), between **Metabiota, Inc.** (herein referred to as "Metabiota" or "Prime Contractor"), a California corporation, located at 425 California Street, Suite 200, San Francisco, CA, 94104 and **Global Viral** at 425 California Street, Suite 200, San Francisco, CA, 94104 (herein referred to as the "Subcontractor"). Metabiota and the Subcontractor are each a "Party" and together are the "Parties".

WHEREAS, the Prime Contractor was awarded Contract No. HDTRA1-14-C-0104 for the Academic Engagement Program (AEP) (the "Prime Agreement") by the Defense Threat Reduction Agency (DTRA) ("Client"); and,

WHEREAS, the Prime Contractor desires to purchase certain services from the Subcontractor for the Client; and,

WHEREAS, the Subcontractor is willing to provide services to the Prime Contractor in accordance with the terms and conditions set forth in this Subcontract.

NOW, THEREFORE, the parties hereby agree as follows:

Article 1. Subcontract Services

1.1 Statement of Work. The Subcontractor shall provide all necessary and qualified personnel, equipment, material and facilities to perform the services (hereinafter, the "Work") as set forth in Attachment A—Scope of Work, which shall include the production of the deliverables ("Deliverables"), attached hereto and incorporated herein by this reference.

1.2 Reporting. The Subcontractor shall submit reports in accordance with the deliverables as described in Attachment A, and as reference in Section 2.3.

The Prime Contractor may request additional information regarding the Subcontractor reports, for which the Subcontractor shall use reasonable best efforts to promptly address. The Prime Contractor will not consider award renewals for Subcontractors who fail to meet reporting requirements on a timely basis.

Article 2. Price, Contract Type, and Payment

2.1 Price and Contract Type. This Subcontract is a **Time & Materials Contract Type.** The ceiling price is **$10,000.00** and the contract is fully funded at **$9,710.80.**

2.2 Labor Rate Table. Subcontractor shall bill hourly, based on the labor rates and qualifications listed in the table below. Subcontractor shall provide back-up documentation detailing hours worked by position level, according to the Labor Categories and Rate Table below and Attachment B.

LABOR CATEGORY	DESCRIPTION	QUALIFICATION	HOURLY RATE
(b)(4); (b)(6)	Develops and revises training courses and prepares appropriate training catalogs. Trains personnel by conducting formal classroom courses, workshops and seminars.	Must have educational background or required level of experience performing training development or instruction; 1-3 years experience in related fields.	(b)(4); (b)(6)
	Under the supervision of the Senior Trainer, develops and revises training courses and	Must have educational background or required	

	prepares appropriate training catalogs.	level of experience performing training development or instruction; 4-6 years experience in system development, training, or related fields.	

2.3 Travel Costs. As per Article 11. Prime Contractor shall coordinate travel and incur any travel costs.

If the Prime Contractor is unable to coordinate Subcontractor travel, the following guidelines shall be applied: Subcontractor shall submit Requests for Travel to Prime Contractor in writing at least 60 days prior to international travel and 30 days prior to domestic travel. Requests must include a detailed itinerary for Prime Contractor approval. Travel Costs must be approved in writing before any costs are incurred and would be invoiced separately, with supporting documentation (receipts). Detailed expense reports including itemized receipts must be submitted for reimbursement. No travel cost will be reimbursed without valid receipt. Travel includes airfare, ground transportation, accommodations, and Meals and Incidental Expenses (M&IE). Per diem rates shall be in accordance with Part 301-11 of U.S. Government Federal Travel Regulation (FTR), as per Article 2.2.2 and Federal Acquisition Regulation (FAR) 31.205.46. As per FAR 252.216-9005, there is no fee (profit) on travel costs permitted.

2.4 Invoicing. The Subcontractor shall submit invoices monthly, no later than the tenth (10th) of the month to invoices@metabiota.com. The invoices shall contain the following information:

- Reference the subcontract number **2015-14-DTRA**.
- Unique invoice number
- Invoice date
- Period of Performance
- Total invoice amount
- Cumulative invoice amount
- Name and address of Subcontractor (mailing address if different)
- Subcontract value and funding (in US Dollars)
- Signed by an authorized official of the Subcontractor
- A certification that reads substantially as follows: "The undersigned hereby certifies that the amount being invoiced represents only those amounts properly payable in accordance with the terms and conditions of the Subcontract Agreement and the official financial records"
- Invoices may be submitted via email to the following addresses listed below: **invoices@metabiota.com**

2.5 Payment. Prime Contractor shall remit payments to the Subcontractor within30 days of receipt of a valid invoice.Payments shall be made in US Dollars via ACH or Wire to:

Bank Name: (b)(4); (b)(6)
Bank Address:
Account Holder
Account No:
ABA Routing No

Article 3. Nature of the Relationship

The Subcontractor and Prime Contractor acknowledge that although the Subcontractor may perform services pursuant to Prime Contractor's general instructions, the Subcontractor in all matters is and shall be deemed to be an independent contractor and the employees or agents of the Subcontractor shall not be or be deemed to be employees or agents of Prime Contractor for any purpose.

The Subcontractor is responsible and liable for the payment of all local sales, use, gross receipts, ad valorem, property, excise or other taxes that may be applicable to this Agreement.

This Agreement does not require either party to enter into further contractual or other relationships with the other. This Agreement does not create a partnership, joint venture, agency, or other business relationship.

Article 4. Period of Performance

4.1 Period of Performance. The period of performance under this Subcontract shall be from ***June 1, 2015 to December 31, 2015.***

4.2 This Subcontract may be terminated for convenience by either party by providing written notice to the other party thirty (30) calendar days in advance of a specified date of termination.

4.3 This Subcontract may be terminated by Prime Contractor upon written notice in the event of substantial failure by the Subcontractor to perform in accordance with the terms of this Agreement. In the event that the Subcontractor shall default in the performance of any obligation to be performed by it under this Agreement and shall fail to correct such default within ten (10) calendar days following written notice thereof from Prime Contractor. The Prime Contractor may hold in abeyance further payments to the Subcontractor and/or terminate this Agreement by written notice to the Subcontractor specifying the date of termination. Following a termination for default of this Agreement, Subcontractor shall be compensated for all completed Services to the extent that Integrating Subcontractor is reimbursed by Prime Contractor for the Subcontractor's services.

4.4 Performance by the Subcontractor may be terminated by Prime Contractor at any time by written notice to the Subcontractor in the event that Prime Contractor's funding is terminated.

4.5 In the event of termination, Prime Contractor will reimburse the Subcontractor for allowable Subcontract Costs up to and including non-cancelable obligations properly incurred prior to the date of termination, provided such costs are allowable do not exceed the stated maximum amount payable.

Article 5. Confidentiality

In order to facilitate the Subcontract Services, Prime Contractor may disclose to the Subcontractor information that it considers confidential or proprietary ("Confidential Information"). Confidential or proprietary information is defined as any information disclosed by one Party (the "Disclosing Party") to the other Party (the "Receiving Party") in a written or tangible shall be marked as "Confidential" or "Proprietary", or if disclosed orally or visually, identified as confidential and/or proprietary at the time of disclosure (which is reduced to writing and so marked within a reasonable time, not to exceed sixty (60) days, thereafter). The Subcontractor will hold in confidence any Confidential Information disclosed by Prime Contractor, and will not use Confidential Information for any purpose except in furtherance of the Subcontract Services. The Subcontractor will take reasonable and prudent precautions to protect the Confidential Information disclosed by Prime Contractor pursuant to this Subcontract. This obligation of confidentiality shall not, however, apply to information which: (i) was known to the Subcontractor and was not proprietary to Prime Contractor prior to the time of disclosure, as demonstrated by competent written evidence; (ii) was part of the public domain prior to the time of disclosure; (iii) becomes part of the public domain after the time of disclosure other than through any act or omission of the Subcontractor in breach of this Subcontract; (iv) is independently developed by the Subcontractor or those employees, contractors, and other researchers directly engaged by the Subcontractor without access to, use of, or regard to the Confidential Information disclosed to it by Prime Contractor. The above confidentiality and non-use obligations shall expire five (5) years following the conclusion of the Subcontract Services hereunder.

Article 6. Data, Publications and Copyrights

6.1 Subcontractor's researchers are free to publish the results of research supported thereunder, however, Subcontractor's Principal Investigator shall supply a copy of any such publication(s) or reports to Prime Contractor's Program Manager sixty (60) days prior to release.

b. Subject to its legal ability to do so, Subcontractor hereby grants Prime Contractor license to use data created in the performance of this Agreement to the extent required to meet Prime Contractor's obligations under the Prime Agreement.

d. Subject to its legal ability to do so, Subcontractor hereby grants to Prime Contractor an irrevocable, royalty-free, non-transferable, non-exclusive right and license to reproduce, make derivative works, display, and perform publicly any copyrightable or copyrighted material (including any computer software and its documentation and/ or database) developed and delivered under this Agreement to the extent required to meet Prime Contractor's obligations under the Prime Agreement.

e. Use of Name. Except as otherwise required by applicable law, regulation or order of a governmental agency or court of competent jurisdiction, Global Viral shall not use the name of METABIOTA or METABIOTA's directors, officers, employees or representatives in any advertising, news release or other publication, without the prior express written consent from METABIOTA.

Article 7. Authorship and Specimen Ownership

7.1 Publication and Specimen Collections. Authorship on all resulting publications (reports, articles, books, etc.) produced under this Subcontract shall include people from both field and laboratory groups represented by Prime Contractor and Subcontractor only insofar as they contributed to the publication in a substantive way. Prior to initiation of writing any publications, the responsibilities for authorship for any given publication will be agreed upon by consensus of all parties. However, if a consensus by all parties is not reached within a reasonable period of time Subcontractor's Principal Investigator shall be free to publish independently and agrees to acknowledge Prime Contractor and/or give acknowledgment to Prime Contractor's scientists in publications or presentations, as scientifically appropriate. The Subcontractor's Principal Investigator and Subcontractor shall include Prime Contractor's scientists as co-authors on such publications, insofar as they provide any direct contributions to the work. All reports, articles, or books produced under this Subcontract shall conform to Attachment D – Mandatory Flow Down. Nothing in this contract limits the right of Subcontractor to produce derivative work products with the materials or data produced in the execution of this contract with the exception of the terms in this Agreement that require Prime Contractor's consent to use of name. The derivative work performed by the Subcontractor shall be at the risk of the Subcontractor exclusively.

7.2 Specimen Ownership. Inasmuch as applicable, for all resulting specimens collected under Subcontract, Prime Contractor, to the extent required to meet Prime Contractor's obligations under the Prime Agreement, shall retain an unlimited license to use, disclose, reproduce, and prepare derivative works, in any manner and or any purpose, and to have or permit others to do so.

Article 8. Miscellaneous Terms

8.1 Assignment. Subcontractor shall not assign, transfer or Subcontract its rights, interest, or obligations hereunder without the prior written consent of Prime Contractor and modification to this Subcontract.

8.2 Modifications. The terms and conditions of this Subcontract may be changed by mutual agreement of the parties. In the event that the Government modifies the terms and/or conditions of the Prime Agreement, Prime Contractor reserves the right to unilaterally modify the terms and/or conditions of this Subcontract to reflect the Government's modifications and, thereafter, to negotiate an adjustment, to the extent any such unilateral modification increases the Subcontractor's cost of performance, which modification shall be mutually agreed upon by Prime Contractor and the Subcontractor.

8.3 No Waivers. The failure of Prime Contractor to exercise any of its rights under this Subcontract shall not be deemed to be a waiver of such rights.

8.4 Force Majeure. Neither party shall be held liable or responsible to the other party nor be deemed to have defaulted under or breached this Agreement for failure or delay in fulfilling or performing any obligation under this Agreement the extent, and for so long as, such failure or delay is caused by or results from causes beyond the reasonable control of the affected party including but not limited to fires, earthquakes, floods, embargoes, wars, acts of war (whether war is declared or not), insurrections, riots, civil disturbances, strikes, lockouts or other labor disturbances, acts of God or any acts, omissions, or delays in acting by any governmental authority or the other party.

8.5 Export Control. Both parties will comply with any applicable export regulations, including the Export Administration Regulation and the International Traffic in Arms Regulation, in the conduct of the project. Neither party will transmit to the other any technical data, commodity, or technical assistance controlled under the export regulations without first securing the consent of the receiving party and modification of this agreement signed by the authorized official for each party.

8.6 Entire Subcontract. This Subcontract and its Attachments supersedes any prior or contemporaneous oral or written understandings or communications between the parties and constitutes the entire Subcontract of the parties with respect to its subject matter. This Subcontract may not be amended or modified, except in a writing signed by both parties.

8.7 Governing Law. This Subcontract shall be governed by the laws of the State of California.

8.8 No Liability. To the maximum extent permitted by applicable law, in no event shall Prime Contractor and Subcontractor be liable to the other party under any theory including contract and tort (both negligence and strict products liability) for any special, incidental, indirect, or consequential damages whatsoever (including, without limitation, damages for loss of business profit, business interruption, loss of business information, loss of goodwill) arising out of or relating to the Project. In addition, Prime Contractor and Subcontractor shall not be liable for losses, damages, claims, or other liabilities arising out of the other party's activities. It is expressly understood that Prime Contractor, by entering into this Subcontract, has no obligation to provide other or additional support to the Subcontractor for the purposes of this project or any other purposes.

8.9 Indemnification. The parties agree to defend, indemnify and hold one another, their officers, employees and agents harmless from and against any and all liability, loss, expense, attorneys' fees, or claims for injury or damages directly resulting from the performance of this Agreement but only in proportion to and to the extent such liability, loss, expense, attorneys' fees, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of the indemnifying party.

8.10 Severability. The illegality or invalidity of any provisions of this Subcontract shall not impair, affect or invalidate the other provisions of this Subcontract.

8.11 Protection of Research Subjects. If human or animal subjects are used in the conduct of the work performed under this Subcontract, the Subcontractor's protocol must be approved by the Subcontractor's office for the protection of research subjects in accordance with federal regulations, including 45 C.F.R. Part 46, the Office for Human Research Protections (OHRP), 9 C.F.R. Subchapter A under the Animal Welfare Act, and submitted to Prime Contractor.

8.12 Defense Base Act Insurance. Subcontractor shall be required to obtain Defense Base Act Insurance (DBA) in accordance with FAR clause 52.228-4 Workers Compensation and War Hazard Insurance Overseas.

Article 9. Attachments

This following Attachments to this Subcontract are incorporated by reference: Attachment A - Scope of Work and Deliverables, Attachment B – Labor Categories and Rates Table, Attachment C – T&M Invoice Template, and Attachment D – Mandatory Flow Down.

METABIOTA

Article 10. Administrative and Technical Contacts

The following individuals shall serve as contacts for communications regarding this Subcontract:

Administrative

PRIME CONTRACTOR

(b)(6) Contracts Administrator
Metabiota, Inc.
425 California Street, Suite 200
San Francisco, CA 94104
Phone: 202-335-2982
Email: (b)(6)

SUBCONTRACTOR

(b)(6) Deputy Director
Global Viral
425 California Street, Suite 200
San Francisco, CA 94104
Phone: (415) 601-2233
Fax :
Email: (b)(6)

Technical

PRIME CONTRACTOR

(b)(6)
Metabiota, Inc.
425 California Street, Suite 200
San Francisco, CA 94104
Phone: 301.312.2109
Email (b)(6)

SUBCONTRACTOR

(b)(6) Director for Central Africa
Global Viral
425 California Street, Suite 200
San Francisco, CA 94104
Phone: +237 699 504 673
Fax :
Email: (b)(6)

Article 11. Travel

11.1 All travel shall be in compliance with the Prime Contract and/or Federal Travel Regulation (FTR) as specified in the Federal Acquisition Regulation (FAR) 31.205-46. There is no fee (profit) on travel costs permitted. Subcontractor shall comply with all Department of Defense Travel Requirements including Anti Terrorism Training (AT), Survival Evasion Resistance Escape Training (SERE) and Isolated Personnel Report (ISOPREP) Training.

11.2 Travel Costs and Logistics shall be provided by Prime Contractor.

In witness whereof, the parties hereto have executed this Subcontract as of the date last signed below.

Metabiota, Inc.

By: _____
(b)(6) Contracts Manager

Date: _____

Subcontractor Name

By: _____
(b)(6) Deputy Director

Date: _____

METABIOTA

Attachment A - Scope of Work and Deliverables

Project Summary:
Metabiota will support the Republic of Cameroon's Ministry of Defense (MOD) by conducting country-specific, high value biosafety and biosecurity (BS&S) trainings, with a focus on personal protective equipment (PPE) donning and doffing and the clinical recognition of viral hemorrhagic fever (VHF). The project team, including Global Viral and other subcontractors, will collaborate to conduct this activity through a phased approach from July 1-Nov. 15, 2015. Implementation phases will include a focus on initiation and coordination, training landscape review development, adaptation of training materials, and training conduction for key MOD employees. This collaboration will enable Cameroon to manage the risk of accidental or intentional release of emerging infectious disease (EID) exposure, and mitigating the effects of such an outbreak. This activity will cultivate an advancement of knowledge concerning the safe response and management of VHF incidences, security threats due to improper handling of pathogens of security concern, and an understanding of the pathogens of concern within the region for members of Cameroon's MOD.

In order to conduct this activity, Global Viral will act in the role of Project Team member.

Schedule/Timeline: This activity will take place July 1-Dec. 31, 2015.

Phase	Q3 2015			Q4 2015		
	July	Aug	Sept	Oct	Nov	Dec
Phase 1: Project Initiation and Coordination						
Phase 2: Training Landscape Development						
Phase 3: Training Material Adaptation						
DTRA Review of Training Materials						
Phase 4: Training Implementation						
Submission of Final Report						

Scope of Work:
Task 1: Phase 1 Project Initiation and Coordination (July 1-Nov. 15, 2015)

1. Collaboration Initiation and Maintenance: Metabiota, Global Viral, and other subcontractors (the Project Team) will develop a communication and coordination plan for the duration of this activity. The Project Team will initiate collaboration with the Cameroon MOD and other stakeholders as appropriate based on expertise and established network. The project team will hold regular (monthly minimum) conference calls to initiate and maintain coordination, and ensure the project remains within scope, budget, and timeline.
2. Logistics Coordination: The Project Team will coordinate with CLS throughout the duration of this activity for participant travel and training logistics, and equipment shipment.

Task 2: Phase 2 Training Landscape Development (July 1-Aug. 31, 2015)

3. Training Materials Review: The Project Team will conduct a comprehensive review of the existing PPE and VHF training materials, will assess current stakeholder needs, and identify training and knowledge gaps. Global Viral will submit their initial assessment of the training environment in Cameroon and content of existing training materials to Metabiota by Aug. 31, 2015.
4. Training Materials Recommendations: Based upon the results of the training materials review and environment assessment, the Project Team will identify areas for modifications based on their knowledge of Cameroon's needs, capacity, and materials content suitability.
5. PPE and VHF Training Landscape Review Report: The Project Team will develop and submit a training landscape review report based upon their assessment of training materials and modification recommendations, training environment assessment, and MOD stakeholder input to DTRA CBEP.

Task 3: Phase 3 Training Material Adaptation and Approval (August 1-Sept. 30, 2015)

6. Training Materials Modification: Metabiota, with the support provided by the Project Team, will facilitate the implementation of recommended modifications to the existing PPE and VHF training materials and translation. A final draft of the materials will be completed by Aug. 31. The Project Team will inform Metabiota of any changes to content that differs from submitted recommendations in addition to providing regular updates regarding the incorporations of modifications and review processes.
7. Modified Training Materials Approval Facilitation: Metabiota, with support provided by the Project Team, will submit the modified training materials to DTRA CBEP for review and approval.
8. Training Planning Development: The Project Team will develop a training plan, including schedule, agenda, and participant criteria for the PPE and VHF training and related pre/post testing and evaluations.

Task 4: Phase 4 Training Implementation (October-November, 2015)

9. Participant Identification: The Project Team will coordinate with the MOD to identify the most suitable participants to take part in the training based on the established participant criteria for training activities.
10. Announcement and Invitation: Metabiota, in coordination with the Project Team, will announce and distribute invitations to selected training participants and ensure those selected have supervisory approval to participate in all training stages in full.
11. Training Logistics: Metabiota will coordinate with DTRA CBEP and CLS, with the support of the Project Team, to ensure participant transportation and training logistics are prepared for training activities.
12. Training Conduction: The Project Team will conduct the training over a period of 3-4 days, including pre- and post-testing and evaluations.
13. Training Trip Report: Global Viral will provide Metabiota with post-training reports within 30 days of completion. Global Viral will submit Training Trip Reports to Metabiota within 5 days of the completion of travel, to be submitted to the primary funder.

Task 5: Final Project Reports

14. Global Viral Project Report: Following the completion of all activities and deliverables, Global Viral will submit a final project report relaying all actions taken for the implementation of all phases, lessons learned, and identifying next step opportunities upon completion of all deliverables.
15. Final Project Report: Following the completion of all project phases, with support of the Project Team, Metabiota will develop and submit a final project report to the primary funder, including the results of knowledge assessments, post-action reports, lessons learned, and recommended next steps.

METABIOTA

Project Deliverables:

Task	Deliverable	Description	Delivery Date
2.	2.1 Training Materials Landscape Review	Global Viral will submit an initial assessment of training materials and the Cameroon training environment, in addition to training materials modification recommendations.	Aug. 31, 2015
3.	3.1 Modified Training Materials	Global Viral, in support of the Project Team, will modify and review the training materials per the finalized recommendations.	Aug. 31, 2015
3.	3.2 Training Plan Development	Global Viral, in support of the Project Team, will submit training plan, including training schedule, agenda, and participant criteria.	Oct. 15, 2015
4.	4.1 Participant Selection	Global Viral and the Project Team will submit the final participant list at least 3 weeks prior to the scheduled training.	Oct. 15, 2015
4.	4.4 Post-Training Report	Global Viral will submit post-training reports, including pre- and post-test results and evaluations	5 days after the completion of travel
1-4.	1-4.1 Task 1-4 Progress Reports	Global Viral will contribute to a monthly progress report conference call relaying activities conducted and status of efforts, accomplishments, metrics, risks or barriers to task completion or overall project implementation.	Monthly (Due the last day of each month)
1-4	1-4.2 Staff Timesheet and Invoicing	Global Viral will submit monthly labor and materials invoices, including a detailed hour-based timesheet.	Monthly (Due the last day of each month)
1-4.	1-4.3 Final Project Report	Global Viral will submit a post-action report relaying all actions taken for implementation of all phases, lessons learned, and identifying next step opportunities upon completion of all deliverables.	Dec. 31, 2015

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Attachment B – Labor Category and Rate Table

(PPE) Donning and Doffing Biosafety Training and Viral Hemorrhagic Fever (VHF) Clinical Recognition Training			
Labor Category	Rate per hr.	Hours (Ceiling)	Total (Ceiling)
Trainer II (b)(4); (b)(6)	$170.00	20	$3,400.00
Trainer I	$157.77	40	$6,310.80
		Total Ceiling Price:	**$9,710.80**

METABIOTA

Attachment C – T&M Invoice Template

Contract PoP:	**Invoice POP:**
Contract Name:	**Invoice #:**
Contract #:	**Remit Payment to:**
Bill To:	
Funded Total:	
Invoice Period of Performance:	

LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED
SME1					
RA					
TOTAL LABOR		0.00	0.00	0.00	0.00

OTHER COSTS INVOICED	CURRENT INVOICE	CUMULATIVE INVOICE
MATERIALS		
OTHER DIRECT COSTS		
TRAVEL		
TOTAL NON LABOR INVOICED	$ -	$ -
TOTAL INVOICE (Labor plus Other Costs)	0	$ -

The undersigned hereby certifies that the amount being invoiced represents only those amounts properly payable in accordance with the terms and conditions of the contract/subcontract and the official financial records.

By: _____
(signature)

Payment should be remitted to: (Please provide details for ACH or Wire Transfer)

Prime Contractor Program Manager:

Approved: _____

METABIOTA

Attachment D – Mandatory Flow Down

Section I - Contract Clauses

CLAUSES INCORPORATED BY REFERENCE

52.202-1	Definitions	JAN 2012
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-6	Restrictions On Subcontractor Sales To The Government	SEP 2006
52.203-6	Restrictions On Subcontractor Sales To The Government	SEP 2006
52.203-7	Anti-Kickback Procedures	OCT 2010
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	JAN 1997
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	OCT 2010
52.203-13	Contractor Code of Business Ethics and Conduct	APR 2010
52.203-17	Contractor Employee Whistleblower Rights and Requirement To Inform Employees of Whistleblower Rights	SEP 2013
52.204-4	Printed or Copied Double-Sided on Postconsumer Fiber Content Paper	MAY 2011
52.204-6	Data Universal Numbering System Number	JUL 2013
52.204-10	Reporting Executive Compensation and First-Tier Subcontract Awards	JUL 2013
52.204-13	System for Award Management Maintenance	JUL 2013
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment	AUG 2013
52.209-10	Prohibition on Contracting With Inverted Domestic Corporations	MAY 2012
52.215-2	Audit and Records--Negotiation	OCT 2010
52.215-2 Alt II	Audit and Records--Negotiation (Oct 2010) - Alternate II	APR 1998
52.215-8	Order of Precedence--Uniform Contract Format	OCT 1997
52.215-15	Pension Adjustments and Asset Reversions	OCT 2010
52.215-17	Waiver of Facilities Capital Cost of Money	OCT 1997
52.215-18	Reversion or Adjustment of Plans for Postretirement Benefits (PRB) Other than Pensions	JUL 2005
52.215-23	Limitations on Pass-Through Charges	OCT 2009

52.215-23 Alt I	Limitations on Pass-Through Charges (Oct 2009) - Alternate I	OCT 2009
52.216-7	Allowable Cost And Payment	JUN 2013
52.216-15	Predetermined Indirect Cost Rates	APR 1998
52.219-8	Utilization of Small Business Concerns	JUL 2013
52.219-9	Small Business Subcontracting Plan	JUL 2013
52.219-16	Liquidated Damages-Subcontracting Plan	JAN 1999
52.219-28	Post-Award Small Business Program Rerepresentation	JUL 2013
52.222-2	Payment For Overtime Premiums	JUL 1990
52.222-3	Convict Labor	JUN 2003
52.222-21	Prohibition Of Segregated Facilities	FEB 1999
52.222-26	Equal Opportunity	MAR 2007
52.222-35	Equal Opportunity for Veterans	SEP 2010
52.222-36	Affirmative Action For Workers With Disabilities	OCT 2010
52.222-37	Employment Reports on Veterans	SEP 2010
52.222-40	Notification of Employee Rights Under the National Labor Relations Act	DEC 2010
52.222-50	Combating Trafficking in Persons	FEB 2009
52.222-54	Employment Eligibility Verification	AUG 2013
52.223-6	Drug-Free Workplace	MAY 2001
52.223-18	Encouraging Contractor Policies To Ban Text Messaging While Driving	AUG 2011
52.225-13	Restrictions on Certain Foreign Purchases	JUN 2008
52.227-1 Alt I	Authorization And Consent (Dec 2007) - Alternate I	APR 1984
52.227-2	Notice And Assistance Regarding Patent And Copyright Infringement	DEC 2007
52.227-11 Alt II	Patent Rights--Ownership by the Contractor (Dec 2007) - Alternate II	DEC 2007
52.228-7	Insurance --Liability To Third Persons	MAR 1996
52.232-9	Limitation On Withholding Of Payments	APR 1984
52.232-17	Interest	OCT 2010
52.232-18	Availability Of Funds	APR 1984
52.232-22	Limitation Of Funds	APR 1984
52.232-23	Assignment Of Claims	JAN 1986
52.232-25	Prompt Payment	JUL 2013
52.232-25 Alt I	Prompt Payment (July 2013) Alternate I	FEB 2002
52.232-33	Payment by Electronic Funds Transfer--System for Award Management	JUL 2013
52.232-40	Providing Accelerated Payments to Small Business Subcontractors	DEC 2013
52.233-1	Disputes	JUL 2002
52.233-3	Protest After Award	AUG 1996

52.233-4	Applicable Law for Breach of Contract Claim	OCT 2004
52.236-5	Material and Workmanship	APR 1984
52.236-7	Permits and Responsibilities	NOV 1991
52.242-1	Notice of Intent to Disallow Costs	APR 1984
52.242-3	Penalties for Unallowable Costs	MAY 2001
52.242-4	Certification of Final Indirect Costs	JAN 1997
52.242-13	Bankruptcy	JUL 1995
52.242-15 Alt I	Stop-Work Order (Aug 1989) - Alternate I	APR 1984
52.243-1 Alt V	Changes--Fixed-Price (Aug 1987) - Alternate V	APR 1984
52.245-1 Alt II	Government Property (Apr 2012) Alternate II	APR 2012
52.245-9	Use And Charges	APR 2012
52.246-4	Inspection Of Services--Fixed Price	AUG 1996
52.249-9	Default (Fixed-Priced Research And Development)	APR 1984
52.251-1	Government Supply Sources	APR 2012
52.252-2	Clauses Incorporated By Reference	FEB 1998
52.253-1	Computer Generated Forms	JAN 1991
252.201-7000	Contracting Officer's Representative	DEC 1991
252.203-7000	Requirements Relating to Compensation of Former DoD Officials	SEP 2011
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense-Contract-Related Felonies	DEC 2008
252.203-7002	Requirement to Inform Employees of Whistleblower Rights	SEP 2013
252.204-7006	Billing Instructions	OCT 2005
252.211-7003	Item Identification and Valuation	JUN 2013
252.211-7007	Reporting of Government-Furnished Property	AUG 2012
252.215-7002	Cost Estimating System Requirements	DEC 2012
252.215-7003	Requirement for Submission of Data Other Than Certified Cost or Pricing Data--Canadian Commercial Corporation.	JUL 2012
252.222-7006	Restrictions on the Use of Mandatory Arbitration Agreements	DEC 2010
252.225-7006	Quarterly Reporting of Actual Contract Performance Outside the United States	OCT 2010
252.226-7001	Utilization of Indian Organizations and Indian-Owned Economic Enterprises, and Native Hawaiian Small Business Concerns	SEP 2004
252.227-7013	Rights in Technical Data--Noncommercial Items	JUN 2013
252.227-7016	Rights in Bid or Proposal Information	JAN 2011
252.227-7027	Deferred Ordering Of Technical Data Or Computer Software	APR 1988
252.227-7030	Technical Data--Withholding Of Payment	MAR 2000
252.227-7037	Validation of Restrictive Markings on Technical Data	JUN 2013

252.227-7039	Patents--Reporting Of Subject Inventions	APR 1990
252.232-7003	Electronic Submission of Payment Requests and Receiving Reports	JUN 2012
252.232-7010	Levies on Contract Payments	DEC 2006
252.235-7011	Final Scientific or Technical Report	NOV 2004
252.243-7002	Requests for Equitable Adjustment	DEC 2012
252.244-7000	Subcontracts for Commercial Items	JUN 2013
252.244-7001	Contractor Purchasing System Administration	JUN 2012
252.245-7000	Government-Furnished Mapping, Charting, and Geodesy Property	APR 2012
252.245-7001	Tagging, Labeling, and Marking of Government-Furnished Property	APR 2012
252.245-7002	Reporting Loss of Government Property	APR 2012
252.247-7024	Notification Of Transportation Of Supplies By Sea	MAR 2000
252.251-7000	Ordering From Government Supply Sources	AUG 2012

CLAUSES INCORPORATED BY FULL TEXT

252.216-9005 PROFIT OR FEE ON TRAVEL COSTS (JUL 2008)
Travel shall not be a profit or fee bearing cost element.

252.203-9000 Prohibition on the Use of Senior Mentors (JUNE 2010)
(a) The use of senior mentors by the Defense Threat Reduction Agency (DTRA) enhances the readiness of the Agency across a wide range of strategic, operational, joint, functional, technical, management and development mission areas. The relevant prior service, joint force experience, and unique expertise of these senior consultants provide senior leadership with valuable insights and contribute to the continuous improvement of the Agencies' operations.

(b) For the purposes of this clause, Senior Mentor is defined as a retired flag, general or other military officers (O-6) or retired senior civilian official (Senior Executive Service (SES), Senior Level (SL), Scientific and Professional (ST)) who provides expert experience-based mentoring, teaching, training, advice, and recommendations to senior military officers, staffs and students as they participate in war games, warfighting courses, operational planning, operational exercises, and decision-making exercises.

(c) In accordance with Secretary of Defense Memorandum entitled "Policy on Senior Mentors" dated April 1, 2010, DTRA will hire all senior mentors as highly qualified experts (HQE) under 5 U.S.C. 9903. This policy balances the need for DTRA to secure the specialized knowledge required for these operational exercises with the need to hire such experts in a manner that promotes public trust and confidence.

(d) The Contractor shall not include the use of senior mentors in bids or proposals for services/supplies offered to DTRA.

(e) The Contractor shall include the substance of this clause in all subcontracts.

252.216-9003 CONSULTANTS (OCT 1998)
Services of consultants shall be at rates and for periods approved in advance by the Contracting Officer. Requests for approval shall be submitted to the Contracting Officer sufficiently in advance of the need to use a consultant under this Contract. The request shall include (a) a copy of the proposed consultant agreement, (b) a brief biography of the consultant, and (c) an indication of the area(s) in which consultant's expertise will be utilized and why it is essential for contract performance. In addition, significant deviations from the dollar amount approved for consultant services, or changes in the consultants to be utilized, must likewise be approved in advance upon submission of adequate justification.

52.217-6 OPTION FOR INCREASED QUANTITY (MAR 1989)
The Government may increase the quantity of supplies called for in the Schedule at the unit price specified. The Contracting Officer may exercise the option by written notice to the Contractor within 60 days. Delivery of the added items shall continue at the same rate as the like items called for under the contract, unless the parties otherwise agree.

52.219-9 SMALL BUSINESS SUBCONTRACTING PLAN (JULY 2013)
(a) This clause does not apply to small business concerns.

(b) Definitions. As used in this clause--

"Alaska Native Corporation (ANC)" means any Regional Corporation, Village Corporation, Urban Corporation, or Group Corporation organized under the laws of the State of Alaska in accordance with the Alaska Native Claims Settlement Act, as amended (43 U.S.C. 1601, et seq.) and which is considered a minority and economically disadvantaged concern under the criteria at 43 U.S.C. 1626(e)(1). This definition also includes ANC direct and indirect subsidiary corporations, joint ventures, and partnerships that meet the requirements of 43 U.S.C. 1626(e)(2).

"Commercial item" means a product or service that satisfies the definition of commercial item in section 2.101 of the Federal Acquisition Regulation.

"Commercial plan" means a subcontracting plan (including goals) that covers the offeror's fiscal year and that applies to the entire production of commercial items sold by either the entire company or a portion thereof (e.g., division, plant, or product line).

"Electronic Subcontracting Reporting System (eSRS)" means the Governmentwide, electronic, web-based system for small business subcontracting program reporting. The eSRS is located at http://www.esrs.gov.

"Indian tribe" means any Indian tribe, band, group, pueblo, or community, including native villages and native groups (including corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act (43 U.S.C.A. 1601 et seq.), that is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs in accordance with 25 U.S.C. 1452(c). This definition also includes Indian-owned economic enterprises that meet the requirements of 25 U.S.C. 1452(e).

"Individual contract plan" means a subcontracting plan that covers the entire contract period (including option periods), applies to a specific contract, and has goals that are based on the offeror's planned subcontracting in support of the specific contract except that indirect costs incurred for common or joint purposes may be allocated on a prorated basis to the contract.

"Master plan" means a subcontracting plan that contains all the required elements of an individual contract plan, except goals, and may be incorporated into individual contract plans, provided the master plan has been approved.

"Subcontract" means any agreement (other than one involving an employer-employee relationship) entered into by a Federal Government prime Contractor or subcontractor calling for supplies or services required for performance of the contract or subcontract.

(c) The offeror, upon request by the Contracting Officer, shall submit and negotiate a subcontracting plan, where applicable, that separately addresses subcontracting with small business concerns, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business concerns, small disadvantaged business, and with women-owned small business concerns. If the offeror is submitting an individual contract plan, the plan must separately address subcontracting with small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns with a separate part for the basic contract and separate parts for each option (if any). The plan shall be included in and made a part of the resultant contract. The subcontracting plan shall be negotiated within the time specified by the Contracting Officer. Failure to submit and negotiate the subcontracting plan shall make the offeror ineligible for award of a contract.

(d) The offeror's subcontracting plan shall include the following:

(1) Goals, expressed in terms of percentages of total planned subcontracting dollars, for the use of small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns as subcontractors. The offeror shall include all subcontracts that contribute to contract performance, and may include a proportionate share of products and services that are normally allocated as indirect costs. In accordance with 43 U.S.C. 1626:

(i) Subcontracts awarded to an ANC or Indian tribe shall be counted towards the subcontracting goals for small business and small disadvantaged business (SDB) concerns, regardless of the size or Small Business Administration certification status of the ANC or Indian tribe.

(ii) Where one or more subcontractors are in the subcontract tier between the prime contractor and the ANC or Indian tribe, the ANC or Indian tribe shall designate the appropriate contractor(s) to count the subcontract towards its small business and small disadvantaged business subcontracting goals.

(A) In most cases, the appropriate Contractor is the Contractor that awarded the subcontract to the ANC or Indian tribe.

(B) If the ANC or Indian tribe designates more than one Contractor to count the subcontract toward its goals, the ANC or Indian tribe shall designate only a portion of the total subcontract award to each Contractor. The sum of the amounts designated to various Contractors cannot exceed the total value of the subcontract.

(C) The ANC or Indian tribe shall give a copy of the written designation to the Contracting Officer, the prime Contractor, and the subcontractors in between the prime Contractor and the ANC or Indian tribe within 30 days of the date of the subcontract award.

(D) If the Contracting Officer does not receive a copy of the ANC's or the Indian tribe's written designation within 30 days of the subcontract award, the Contractor that awarded the subcontract to the ANC or Indian tribe will be considered the designated Contractor.

(2) A statement of --

(i) Total dollars planned to be subcontracted for an individual contract plan; or the offeror's total projected sales, expressed in dollars, and the total value of projected subcontracts to support the sales for a commercial plan;

(ii) Total dollars planned to be subcontracted to small business concerns (including ANC and Indian tribes);

(iii) Total dollars planned to be subcontracted to veteran-owned small business concerns;

(iv) Total dollars planned to be subcontracted to service-disabled veteran-owned small business;

(v) Total dollars planned to be subcontracted to HUBZone small business concerns;

(vi) Total dollars planned to be subcontracted to small disadvantaged business concerns (including ANCs and Indian tribes); and

(vii) Total dollars planned to be subcontracted to women-owned small business concerns.

(3) A description of the principal types of supplies and services to be subcontracted, and an identification of the types planned for subcontracting to --

(i) Small business concerns,

(ii) Veteran-owned small business concerns;

(iii) Service-disabled veteran-owned small business concerns;

(iv) HUBZone small business concerns;

(v) Small disadvantaged business concerns, and

(vi) Women-owned small business concerns.

(4) A description of the method used to develop the subcontracting goals in paragraph (d)(1) of this clause.

(5) A description of the method used to identify potential sources for solicitation purposes (e.g., existing company source lists, the System for Award Management (SAM), veterans service organizations, the National Minority Purchasing Council Vendor Information Service, the Research and Information Division of the Minority Business Development Agency in the Department of Commerce, or small, HUBZone, small disadvantaged, and women-owned small business trade associations). A firm may rely on the information contained in SAM as an accurate representation of a concern's size and ownership characteristics for the purposes of maintaining a small, veteran-owned small, service-disabled veteran-owned small, HUBZone small, small disadvantaged, and women-owned small business source list. Use of SAM as its source list does not relieve a firm of its responsibilities (e.g., outreach, assistance, counseling, or publicizing subcontracting opportunities) in this clause.

(6) A statement as to whether or not the offeror included indirect costs in establishing subcontracting goals, and a description of the method used to determine the proportionate share of indirect costs to be incurred with --

(i) Small business concerns (including ANC and Indian tribes);

(ii) Veteran-owned small business concerns;

(iii) Service-disabled veteran-owned small business concerns;

(iv) HUBZone small business concerns;

(v) Small disadvantaged business concerns (including ANC and Indian tribes); and

(vi) Women-owned small business concerns.

(7) The name of the individual employed by the offeror who will administer the offeror's subcontracting program, and a description of the duties of the individual.

(8) A description of the efforts the offeror will make to assure that small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns have an equitable opportunity to compete for subcontracts.

(9) Assurances that the offeror will include the clause of this contract entitled "Utilization of Small Business Concerns" in all subcontracts that offer further subcontracting opportunities, and that the offeror will require all subcontractors (except small business concerns) that receive subcontracts in excess of $650,000 ($1.5 million for construction of any public facility with further subcontracting possibilities) to adopt a plan similar to the plan that complies with the requirements of this clause.

(10) Assurances that the offeror will --

(i) Cooperate in any studies or surveys as may be required;

(ii) Submit periodic reports so that the Government can determine the extent of compliance by the offeror with the subcontracting plan;

(iii) Submit the Individual Subcontract Report (ISR) and/or the Summary Subcontract Report (SSR), in accordance with paragraph (l) of this clause using the Electronic Subcontracting Reporting System (eSRS) at http://www.esrs.gov. The reports shall provide information on subcontract awards to small business concerns (including ANCs and Indian tribes that are not small businesses), veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns (including ANCs and Indian tribes that have not been certified by the Small Business Administration as small disadvantaged businesses), women-owned small business concerns, and Historically Black Colleges and Universities and Minority Institutions. Reporting shall be in accordance with this clause, or as provided in agency regulations;

(iv) Ensure that its subcontractors with subcontracting plans agree to submit the ISR and/or the SSR using eSRS;

(v) Provide its prime contract number, its DUNS number, and the e-mail address of the offeror's official responsible for acknowledging receipt of or rejecting the ISRs, to all first-tier subcontractors with subcontracting plans so they can enter this information into the eSRS when submitting their ISRs; and

(vi) Require that each subcontractor with a subcontracting plan provide the prime contract number, its own DUNS number, and the e-mail address of the subcontractor's official responsible for acknowledging receipt of or rejecting the ISRs, to its subcontractors with subcontracting plans.

(11) A description of the types of records that will be maintained concerning procedures that have been adopted to comply with the requirements and goals in the plan, including establishing source lists; and a description of the offeror's efforts to locate small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns and award subcontracts to them. The records shall include at least the following (on a plant-wide or company-wide basis, unless otherwise indicated):

(i) Source lists (e.g., SAM), guides, and other data that identify small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns.

(ii) Organizations contacted in an attempt to locate sources that are small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, or women-owned small business concerns.

(iii) Records on each subcontract solicitation resulting in an award of more than $150,000, indicating --

(A) Whether small business concerns were solicited and if not, why not;

(B) Whether veteran-owned small business concerns were solicited and, if not, why not;

(C) Whether service-disabled veteran-owned small business concerns were solicited and, if not, why not;

(D) Whether HUBZone small business concerns were solicited and, if not, why not;

(E) Whether small disadvantaged business concerns were solicited and if not, why not;

(F) Whether women-owned small business concerns were solicited and if not, why not; and

(G) If applicable, the reason award was not made to a small business concern.

(iv) Records of any outreach efforts to contact --

(A) Trade associations;

(B) Business development organizations;

(C) Conferences and trade fairs to locate small, HUBZone small, small disadvantaged, and women-owned small business sources; and

(D) Veterans service organizations.

(v) Records of internal guidance and encouragement provided to buyers through --

(A) Workshops, seminars, training, etc., and

(B) Monitoring performance to evaluate compliance with the program's requirements.

(vi) On a contract-by-contract basis, records to support award data submitted by the offeror to the Government, including the name, address, and business size of each subcontractor. Contractors having commercial plans need not comply with this requirement.

(e) In order to effectively implement this plan to the extent consistent with efficient contract performance, the Contractor shall perform the following functions:

(1) Assist small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns by arranging solicitations, time for the preparation of bids, quantities, specifications, and delivery schedules so as to facilitate the participation by such concerns. Where the Contractor's lists of potential small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business subcontractors are excessively long, reasonable effort shall be made to give all such small business concerns an opportunity to compete over a period of time.

(2) Provide adequate and timely consideration of the potentialities of small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns in all "make-or-buy" decisions.

(3) Counsel and discuss subcontracting opportunities with representatives of small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business firms.

(4) Confirm that a subcontractor representing itself as a HUBZone small business concern is identified as a certified HUBZone small business concern by accessing the SAM database or by contacting SBA.

(5) Provide notice to subcontractors concerning penalties and remedies for misrepresentations of business status as small, veteran-owned small business, HUBZone small, small disadvantaged or women-owned small business for the purpose of obtaining a subcontract that is to be included as part or all of a goal contained in the Contractor's subcontracting plan.

(6) For all competitive subcontracts over the simplified acquisition threshold in which a small business concern received a small business preference, upon determination of the successful subcontract offeror, the Contractor must inform each unsuccessful small business subcontract offeror in writing of the name and location of the apparent successful offeror prior to award of the contract.

(f) A master plan on a plant or division-wide basis that contains all the elements required by paragraph (d) of this clause, except goals, may be incorporated by reference as a part of the subcontracting plan required of the offeror by this clause; provided --

(1) The master plan has been approved;

(2) The offeror ensures that the master plan is updated as necessary and provides copies of the approved master plan, including evidence of its approval, to the Contracting Officer; and

(3) Goals and any deviations from the master plan deemed necessary by the Contracting Officer to satisfy the requirements of this contract are set forth in the individual subcontracting plan.

(g) A commercial plan is the preferred type of subcontracting plan for contractors furnishing commercial items. The commercial plan shall relate to the offeror's planned subcontracting generally, for both commercial and Government business, rather than solely to the Government contract. Once the Contractor's commercial plan has been approved, the Government will not require another subcontracting plan from the same Contractor while the plan remains in effect, as long as the product or service being provided by the Contractor continues to meet the definition of a commercial item. A Contractor with a commercial plan shall comply with the reporting requirements stated in paragraph (d)(10) of this clause by submitting one SSR in eSRS for all contracts covered by its commercial plan. This report shall be acknowledged or rejected in eSRS by the Contracting Officer who approved the plan. This report shall be submitted within 30 days after the end of the Government's fiscal year.

(h) Prior compliance of the offeror with other such subcontracting plans under previous contracts will be considered by the Contracting Officer in determining the responsibility of the offeror for award of the contract.

(i) A contract may have no more than one plan. When a modification meets the criteria in 19.702 for a plan, or an option is exercised, the goals associated with the modification or option shall be added to those in the existing subcontract plan.

(j) Subcontracting plans are not required from subcontractors when the prime contract contains the clause at 52.212-5, Contract Terms and Conditions Required to Implement Statutes or Executive Orders--Commercial Items, or when the subcontractor provides a commercial item subject to the clause at 52.244-6, Subcontracts for Commercial Items, under a prime contract.

(k) The failure of the Contractor or subcontractor to comply in good faith with --

(1) The clause of this contract entitled "Utilization Of Small Business Concerns;" or

(2) An approved plan required by this clause, shall be a material breach of the contract.

(l) The Contractor shall submit ISRs and SSRs using the web-based eSRS at http://www.esrs.gov. Purchases from a corporation, company, or subdivision that is an affiliate of the prime Contractor or subcontractor are not included in these reports. Subcontract award data reported by prime Contractors and subcontractors shall be limited to awards made to their immediate next-tier subcontractors. Credit cannot be taken for awards made to lower tier subcontractors, unless the Contractor or subcontractor has been designated to receive a small business or small disadvantaged business credit from an ANC or Indian tribe. Only subcontracts involving performance in the United States or its outlying areas should be included in these reports with the exception of subcontracts under a contract awarded by the State Department or any other agency that has statutory or regulatory authority to require subcontracting plans for subcontracts performed outside the United States and its outlying areas.

(1) ISR. This report is not required for commercial plans. The report is required for each contract containing an individual subcontract plan.

(i) The report shall be submitted semi-annually during contract performance for the periods ending March 31 and September 30. A report is also required for each contract within 30 days of contract completion. Reports are due 30 days after the close of each reporting period, unless otherwise directed by the Contracting Officer. Reports are required when due, regardless of whether there has been any subcontracting activity since the inception of the contract or the previous reporting period.

(ii) When a subcontracting plan contains separate goals for the basic contract and each option, as prescribed by FAR 19.704(c), the dollar goal inserted on this report shall be the sum of the base period through the current option; for example, for a report submitted after the second option is exercised, the dollar goal would be the sum of the goals for the basic contract, the first option, and the second option.

(iii) The authority to acknowledge receipt or reject the ISR resides--

(A) In the case of the prime Contractor, with the Contracting Officer; and

(B) In the case of a subcontract with a subcontracting plan, with the entity that awarded the subcontract.

(2) SSR.

(i) Reports submitted under individual contract plans--

(A) This report encompasses all subcontracting under prime contracts and subcontracts with the awarding agency, regardless of the dollar value of the subcontracts.

(B) The report may be submitted on a corporate, company or subdivision (e.g. plant or division operating as a separate profit center) basis, unless otherwise directed by the agency.

(C) If a prime Contractor and/or subcontractor is performing work for more than one executive agency, a separate report shall be submitted to each executive agency covering only that agency's contracts, provided at least one of that agency's contracts is over $650,000 (over $1.5 million for construction of a public facility) and contains a subcontracting plan. For DoD, a consolidated report shall be submitted for all contracts awarded by military departments/agencies and/or subcontracts awarded by DoD prime Contractors. However, for construction and related maintenance and repair, a separate report shall be submitted for each DoD component.

(D) For DoD and NASA, the report shall be submitted semi-annually for the six months ending March 31 and the twelve months ending September 30. For civilian agencies, except NASA, it shall be submitted annually for the twelve month period ending September 30. Reports are due 30 days after the close of each reporting period.

(E) Subcontract awards that are related to work for more than one executive agency shall be appropriately allocated.

(F) The authority to acknowledge or reject SSRs in eSRS, including SSRs submitted by subcontractors with subcontracting plans, resides with the Government agency awarding the prime contracts unless stated otherwise in the contract.

(ii) Reports submitted under a commercial plan--

(A) The report shall include all subcontract awards under the commercial plan in effect during the Government's fiscal year.

(B) The report shall be submitted annually, within thirty days after the end of the Government's fiscal year.

(C) If a Contractor has a commercial plan and is performing work for more than one executive agency, the Contractor shall specify the percentage of dollars attributable to each agency from which contracts for commercial items were received.

(D) The authority to acknowledge or reject SSRs for commercial plans resides with the Contracting Officer who approved the commercial plan.

(iii) All reports submitted at the close of each fiscal year (both individual and commercial plans) shall include a Year-End Supplementary Report for Small Disadvantaged Businesses. The report shall include subcontract awards, in whole dollars, to small disadvantaged business concerns by North American Industry Classification System (NAICS) Industry Subsector. If the data are not available when the year-end SSR is submitted, the prime Contractor and/or subcontractor shall submit the Year-End Supplementary Report for Small Disadvantaged Businesses within 90 days of submitting the year-end SSR. For a commercial plan, the Contractor may obtain from each of its subcontractors a predominant NAICS Industry Subsector and report all awards to that subcontractor under its predominant NAICS Industry Subsector.

52.244-2 SUBCONTRACTS (OCT 2010)
(a) Definitions. As used in this clause--

Approved purchasing system means a Contractor's purchasing system that has been reviewed and approved in accordance with Part 44 of the Federal Acquisition Regulation (FAR).

Consent to subcontract means the Contracting Officer's written consent for the Contractor to enter into a particular subcontract.

Subcontract means any contract, as defined in FAR Subpart 2.1, entered into by a subcontractor to furnish supplies or services for performance of the prime contract or a subcontract. It includes, but is not limited to, purchase orders, and changes and modifications to purchase orders.

(b) When this clause is included in a fixed-price type contract, consent to subcontract is required only on unpriced contract actions (including unpriced modifications or unpriced delivery orders), and only if required in accordance with paragraph (c) or (d) of this clause.

(c) If the Contractor does not have an approved purchasing system, consent to subcontract is required for any subcontract that—

(1) Is of the cost-reimbursement, time-and-materials, or labor-hour type; or

(2) Is fixed-price and exceeds—

(i) For a contract awarded by the Department of Defense, the Coast Guard, or the National Aeronautics and Space Administration, the greater of the simplified acquisition threshold or 5 percent of the total estimated cost of the contract; or

(ii) For a contract awarded by a civilian agency other than the Coast Guard and the National Aeronautics and Space Administration, either the simplified acquisition threshold or 5 percent of the total estimated cost of the contract.

(d) If the Contractor has an approved purchasing system, the Contractor nevertheless shall obtain the Contracting Officer's written consent before placing the following subcontracts:

Subcontracts or Consultants (for Consultants see DTRA 252 216-9003 in Section H)

(e)(1) The Contractor shall notify the Contracting Officer reasonably in advance of placing any subcontract or modification thereof for which consent is required under paragraph (b), (c), or (d) of this clause, including the following information:

(i) A description of the supplies or services to be subcontracted.

(ii) Identification of the type of subcontract to be used.

(iii) Identification of the proposed subcontractor.

(iv) The proposed subcontract price.

(v) The subcontractor's current, complete, and accurate certified cost or pricing data and Certificate of Current Cost or Pricing Data, if required by other contract provisions.

(vi) The subcontractor's Disclosure Statement or Certificate relating to Cost Accounting Standards when such data are required by other provisions of this contract.

(vii) A negotiation memorandum reflecting—

(A) The principal elements of the subcontract price negotiations;

(B) The most significant considerations controlling establishment of initial or revised prices;

(C) The reason certified cost or pricing data were or were not required;

(D) The extent, if any, to which the Contractor did not rely on the subcontractor's certified cost or pricing data in determining the price objective and in negotiating the final price;

(E) The extent to which it was recognized in the negotiation that the subcontractor's certified cost or pricing data were not accurate, complete, or current; the action taken by the Contractor and the subcontractor; and the effect of any such defective data on the total price negotiated;

(F) The reasons for any significant difference between the Contractor's price objective and the price negotiated; and

(G) A complete explanation of the incentive fee or profit plan when incentives are used. The explanation shall identify each critical performance element, management decisions used to quantify each incentive element, reasons for the incentives, and a summary of all trade-off possibilities considered.

(2) The Contractor is not required to notify the Contracting Officer in advance of entering into any subcontract for which consent is not required under paragraph (c), (d), or (e) of this clause.

(f) Unless the consent or approval specifically provides otherwise, neither consent by the Contracting Officer to any subcontract nor approval of the Contractor's purchasing system shall constitute a determination—

(1) Of the acceptability of any subcontract terms or conditions;

(2) Of the allowability of any cost under this contract; or

(3) To relieve the Contractor of any responsibility for performing this contract.

(g) No subcontract or modification thereof placed under this contract shall provide for payment on a cost-plus-a-percentage-of-cost basis, and any fee payable under cost-reimbursement type subcontracts shall not exceed the fee limitations in FAR 15.404-4(c)(4)(i).

(h) The Contractor shall give the Contracting Officer immediate written notice of any action or suit filed and prompt notice of any claim made against the Contractor by any subcontractor or vendor that, in the opinion of the Contractor, may result in litigation related in any way to this contract, with respect to which the Contractor may be entitled to reimbursement from the Government.

(i) The Government reserves the right to review the Contractor's purchasing system as set forth in FAR Subpart 44.3.

(j) Paragraphs (c) and (e) of this clause do not apply to the following subcontracts, which were evaluated during negotiations:

(End of clause)

252.203-9005, Implementation of Contractor Code of Business Ethics and Conduct (Dec 2008)

In accordance with FAR clause 52.203-13, Contractor Code of Business Ethics and Conduct, the designated "agency Office of the Inspector General" is the DoD OIG at the following address:

Office of the Inspector General
United States Department of Defense
Investigative Policy and Oversight
Contractor Disclosure Program
400 Army Navy Drive, Suite 1037
Arlington, VA 22202-4704
Toll Free Telephone: 866-429-8011

252.204-9001 UNIVERSITIES DISCLOSURE OF INFORMATION (JUL 2009)

(a) The Contractor shall not release to anyone outside the Contractor's organization any unclassified information, regardless of medium (e.g. film, tape, document) pertaining to any part of this contract or any program related to this contract, unless the information results from fundamental research, as defined below:

> "Fundamental research" as used in this clause, means basic and applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community, as distinguished from proprietary research and from industrial development, design, production, and product utilization, the results of which ordinarily are restricted for proprietary or national security reasons.

(b) The Contractor shall confer and consult with DTRA on technical aspects of its research and submit technical documents intended for publication to the cognizant DTRA technical representative(s) for review, a minimum of 45 days prior to publication or other dissemination. The purpose of the DTRA review period is to ensure the government ample opportunity to provide comments and suggestions for the researchers' consideration.

252.204-9004 IMPLEMENTATION OF DISCLOSURE OF INFORMATION (JUN 2007)
In accordance with DFARS 252.204-7000 Disclosure of Information, any information to be released shall be submitted at least 45 days before the proposed release date, for security and policy review. Submit one copy to each below:

(a) Office of Public Affairs, DTRA/DIR/COS/PA, 8725 John J. Kingman Dr, MS 6201, Ft Belvoir VA 22060-6201.
(b) Contracting Officer
(c) Program Manager

METABIOTA

SOLE SOURCE JUSTIFICATION FOR GLOBAL VIRAL

Personal Protective Equipment (PPE) Donning and Doffing Biosafety Training and Viral Hemorrhagic Fever (VHF)

FAR Part 13.106 requires soliciting among a reasonable number (generally, three) of sources to promote competition to the maximum extent practical. Solicitations may only be limited to one source if it is determined that it is the only source reasonably available. If only one source is solicited, the contract file must be documented to explain the absence of competition.

1. **Identify the activity, deliverables, and where the work will be preformed.**
    a. Metabiota will support the Republic of Cameroon's Ministry of Defense (MOD) by conducting country-specific, high value biosafety and biosecurity (BS&S) trainings, with a focus on personal protective equipment (PPE) donning and doffing and the clinical recognition of viral hemorrhagic fever (VHF). In support of this, Global Viral will take part in the project team in order to collaborate to conduct this activity through a phased approach from July 1-Nov. 15, 2015. Implementation phases will include a focus on initiation and coordination, training landscape review development, adaptation of training materials, and training conduction for key MOD employees. This collaboration will enable Cameroon to manage the risk of accidental or intentional release of emerging infectious disease (EID) exposure, and mitigating the effects of such an outbreak. This activity will cultivate an advancement of knowledge concerning the safe response and management of VHF incidences, security threats due to improper handling of pathogens of security concern, and an understanding of the pathogens of concern within the region for members of Cameroon's MOD.
2. **Describe supplies and/or services being procured**
    a. Global Viral will provide SME, stakeholder coordination, and in-country logistic support for this activity. Details of their tasks and deliverables can be found in Attachment 1_SOW_Global Viral_Cameroon PPE Training Program
3. **Rationale supporting the sole source acquisition. (NOTE: You are not trying to justify or select the best source; that is done competitively. You must justify that there is only one source.)**
    a. Global Viral is a leading organization for the conduction of medical and infectious disease research and trainings in Cameroon, particularly with the MOD, and is singular in their ability to carry out the necessary requirements for this effort. Their technical expertise is unsurpassed in Cameroon and their established relationships with key Cameroon MOD stakeholders makes them the only viable option to achieve the standard of training required by the US government.
    b. As time constraints associated with completing this activity, it was deemed unfeasible to identify, educate and engage another subcontractor to obtain this expertise. Therefore, Metabiota has chosen to proceed with Global Viral, using a sole source justification, and completing a full, and immediate review of their proposal to issue a T&M that would allow Metabiota to engage and complete the training in the required time period. Global Viral's proposal was determined to be fair and reasonable rates comparing to similar standard requirements.

METABIOTA

October 20, 2015

(b)(6) ontracting Officer
Defense Threat Reduction Agency (DTRA)/J4COC
8725 John J Kingman Rd. MSC 6201
Fort Belvoir, VA 22060

Sent via email to (b)(6)

Re: FAR 52.244-2 SUBCONTRACTS – Consent to Subcontract with Attimo
Academic Engagement Partnership (AEP), Cooperative Threat Reduction (CTR)
Contract No. HDTRA1-14-C-0104

Dear Ms. Simpson:
Per FAR 52.244-2 Subcontracts, Metabiota, Inc. (Metabiota) requests Consent to Subcontract with Attimo Group LLC, DBA Attimo Research and Development to support TD-17 Georgia Grantsmanship Support and Mentorship. Included with today's request are the following items:

- Draft Subcontract Agreement
- Sole Source Justification
- Price Negotiation Memorandum (PNM)

We will provide a comprehensive subcontractor budget once finalized.

Description of services to be subcontracted.

- Complete grantsmanship and mentorship necessary for successful proposal submissions to DTRA CBEP Broad Agency Announcement (BAA) or other competitive research solicitations including: development of white papers; proposal preparation, editing, and submission; the development of accurate direct and indirect cost projections; the identification and articulation of scientific hypotheses; research data framing; and reviewing and responding to proposal evaluations and recommendations;
- Complete two (2) one-week visits to Tbilisi, Georgia to provide on-site mentorship, assess the need for in-country grantsmanship mentoring, implement mentoring work plans, and assist with actual proposal writing as-needed
- Complete any additional reporting requirements, as necessary, and requested by DTRA.

Type of subcontract to be used. *Time and Materials.*

Proposed Subcontractor. Attimo Group LLC, DBA Attimo Research and Development.

Proposed subcontract price. A preliminary estimation total of $88,000 USD.

If you have questions or need additional information, I may be reached a (b)(6) or (b)(6)

Sincerely,

(b)(6)
Contracts Administrator

METABIOTA

DRAFT

SUBCONTRACT

Between

METABIOTA, INC.
425 CALIFORNIA STREET, SUITE 200
SAN FRANCISCO, CA 94104

and

Attimo Group LLC
2000 Kraft Drive, Suite 1108
Blacksburg, Virginia 24060

CONTRACT SUMMARY

Metabiota, Inc. Contract No.:	2015-22-DTRA
Performance Period:	October 8, 2015 – May 15, 2016 Time
Contract Type:	& Materials (T&M)
Contract Value:	$88,000.00
Project Title:	AEP TDh 017
Metabiota, Inc. Project Manager:	Dennis Lee

METABIOTA

AGREEMENT

This Subcontract ("Subcontract") is dated and effective as of the October 8, 2015 ("Effective Date"), between **Metabiota, Inc.** (herein referred to as "Metabiota" or "Prime Contractor"), a California corporation, located at 1 Sutter Street, Suite 600, San Francisco, CA, 94104 and **Attimo Group LLC** at 2000 Kraft Drive, Suite 1108, Blacksburg, VA 24060 (herein referred to as the "Subcontractor"). Metabiota and the Subcontractor are each a "Party" and together are the "Parties".

WHEREAS, the Prime Contractor was awarded Contract No. HDTRA1-14-C-0104 for the Academic Engagement Program (AEP) (the "Prime Agreement") by the Defense Threat Reduction Agency (DTRA) ("Client"); and,

WHEREAS, the Prime Contractor desires to purchase certain services from the Subcontractor for the Client; and,

WHEREAS, the Subcontractor is willing to provide services to the Prime Contractor in accordance with the terms and conditions set forth in this Subcontract.

NOW, THEREFORE, the parties hereby agree as follows:

Article 1. Subcontract Services

1.1 Statement of Work. The Subcontractor shall provide all necessary and qualified personnel, equipment, material and facilities to perform the services (hereinafter, the "Work") as set forth in Attachment A—Scope of Work, which shall include the production of the deliverables ("Deliverables"), attached hereto and incorporated herein by this reference.

1.2 Reporting. The Subcontractor shall submit reports in accordance with the deliverables as described in Attachment A, and as reference in Section 2.3.

The Prime Contractor may request additional information regarding the Subcontractor reports, for which the Subcontractor shall use reasonable best efforts to promptly address. The Prime Contractor will not consider award renewals for Subcontractors who fail to meet reporting requirements on a timely basis.

Article 2. Price, Contract Type, and Payment

2.1 Price and Contract Type. This Subcontract is a **Time & Materials Contract Type.** The ceiling price of **$88,000.00** is fully funded.

2.2 Labor Rate Table. Subcontractor shall bill hourly, based on the labor rates and qualifications listed in the table below. Subcontractor shall provide back-up documentation detailing hours worked by position level, according to the Labor Categories and Rate Table below and Attachment B.

TD 017 Grantsmanship Support and Mentorship in Georgia			
Staff	Rate	Unit	Total
SME 2	$150.00	520	$78,000.00
Travel (cost reimbursable)	$5,000.00	2	$10,000.00
		Grand Total	**$88,000.00**

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2.3 Travel Costs. As per Article 11, Prime Contractor shall coordinate travel and incur any travel costs.

If the Prime Contractor is unable to coordinate Subcontractor travel, the following guidelines shall be applied: Subcontractor shall submit Requests for Travel to Prime Contractor in writing at least 75 days prior to international travel and 30 days prior to domestic travel. Requests must include a detailed itinerary for Prime Contractor approval. Travel Costs must be approved in writing before any costs are incurred and would be invoiced separately, with supporting documentation (receipts). Detailed expense reports including itemized receipts must be submitted for reimbursement. No travel cost will be reimbursed without valid receipt. Travel includes airfare, ground transportation, accommodations, and Meals and Incidental Expenses (M&IE). Per diem rates shall be in accordance with Part 301-11 of U.S. Government Federal Travel Regulation (FTR), as per Article 2.2.2 and Federal Acquisition Regulation (FAR) 31.205.46. As per FAR 252.216-9005, there is no fee (profit) on travel costs permitted.

2.4 Invoicing. The Subcontractor shall submit invoices monthly, no later than the tenth (10th) of the month to invoices@metabiota.com. The invoices shall contain the following information:

- Reference the subcontract number **2015-22-DTRA**.
- Unique invoice number
- Invoice date
- Period of Performance
- Total invoice amount
- Cumulative invoice amount
- Name and address of Subcontractor (mailing address if different)
- Subcontract value and funding (in US Dollars)
- Signed by an authorized official of the Subcontractor
- A certification that reads substantially as follows: "The undersigned hereby certifies that the amount being invoiced represents only those amounts properly payable in accordance with the terms and conditions of the Subcontract Agreement and the official financial records"
- Invoices may be submitted via email to the following addresses listed below: **invoices@metabiota.com**

2.5 Payment. Prime Contractor shall remit payments to the Subcontractor within30 days of receipt of a valid invoice.Payments shall be made in US Dollars via ACH or Wire to:

Bank Name:	First Bank and Trust
Bank Address:	Pepper's Ferry Road, Christiansburg, VA. 24073
Account Name:	Attimo Research and Development
Account Number:	110005244
ABA Routing No:	051404464

Article 3. Nature of the Relationship

The Subcontractor and Prime Contractor acknowledge that although the Subcontractor may perform services pursuant to Prime Contractor's general instructions, the Subcontractor in all matters is and shall be deemed to be an independent contractor and the employees or agents of the Subcontractor shall not be or be deemed to be employees or agents of Prime Contractor for any purpose.

The Subcontractor is responsible and liable for the payment of all local sales, use, gross receipts, ad valorem, property, excise or other taxes that may be applicable to this Agreement.

This Agreement does not require either party to enter into further contractual or other relationships with the other. This Agreement does not create a partnership, joint venture, agency, or other business relationship.

Article 4. Period of Performance

4.1 Period of Performance. The period of performance under this Subcontract shall be from ***October 8, 2015 to May 15, 2016.***

4.2 This Subcontract may be terminated for convenience by either party by providing written notice to the other party thirty (30) calendar days in advance of a specified date of termination.

4.3 This Subcontract may be terminated by Prime Contractor upon written notice in the event of substantial failure by the Subcontractor to perform in accordance with the terms of this Agreement. In the event that the Subcontractor shall default in the performance of any obligation to be performed by it under this Agreement and shall fail to correct such default within ten (10) calendar days following written notice thereof from Prime Contractor. The Prime Contractor may hold in abeyance further payments to the Subcontractor and/or terminate this Agreement by written notice to the Subcontractor specifying the date of termination. Following a termination for default of this Agreement, Subcontractor shall be compensated for all completed Services to the extent that Prime Contractor is reimbursed by the Client for the Subcontractor's services.

4.4 Performance by the Subcontractor may be terminated by Prime Contractor at any time by written notice to the Subcontractor in the event that Prime Contractor's funding is terminated.

4.5 In the event of termination, Prime Contractor will reimburse the Subcontractor for allowable Subcontract Costs up to and including non-cancelable obligations properly incurred prior to the date of termination, provided such costs are allowable do not exceed the stated maximum amount payable.

Article 5. Confidentiality

In order to facilitate the Subcontract Services, Prime Contractor may disclose to the Subcontractor information that it considers confidential or proprietary ("Confidential Information"). Confidential or proprietary information is defined as any information disclosed by one Party (the "Disclosing Party") to the other Party (the "Receiving Party") in a written or tangible shall be marked as "Confidential" or "Proprietary", or if disclosed orally or visually, identified as confidential and/or proprietary at the time of disclosure (which is reduced to writing and so marked within a reasonable time, not to exceed sixty (60) days, thereafter). The Subcontractor will hold in confidence any Confidential Information disclosed by Prime Contractor, and will not use Confidential Information for any purpose except in furtherance of the Subcontract Services. The Subcontractor will take reasonable and prudent precautions to protect the Confidential Information disclosed by Prime Contractor pursuant to this Subcontract. This obligation of confidentiality shall not, however, apply to information which: (i) was known to the Subcontractor and was not proprietary to Prime Contractor prior to the time of disclosure, as demonstrated by competent written evidence; (ii) was part of the public domain prior to the time of disclosure; (iii) becomes part of the public domain after the time of disclosure other than through any act or omission of the Subcontractor in breach of this Subcontract; (iv) is independently developed by the Subcontractor or those employees, contractors, and other researchers directly engaged by the Subcontractor without access to, use of, or regard to the Confidential Information disclosed to it by Prime Contractor. The above confidentiality and non-use obligations shall expire five (5) years following the conclusion of the Subcontract Services hereunder.

Article 6. Data, Publications and Copyrights

6.1 Subcontractor's researchers are free to publish the results of research supported thereunder, however, Subcontractor's Principal Investigator shall supply a copy of any such publication(s) or reports to Prime Contractor's Program Manager sixty (60) days prior to release.

b. Subject to its legal ability to do so, Subcontractor hereby grants Prime Contractor license to use data created in the performance of this Agreement to the extent required to meet Prime Contractor's obligations under the Prime Agreement.

d. Subject to its legal ability to do so, Subcontractor hereby grants to Prime Contractor an irrevocable, royalty-free, non-transferable, non-exclusive right and license to reproduce, make derivative works, display, and perform publicly any copyrightable or copyrighted material (including any computer

software and its documentation and/ or database) developed and delivered under this Agreement to the extent required to meet Prime Contractor's obligations under the Prime Agreement.

e. Use of Name. Except as otherwise required by applicable law, regulation or order of a governmental agency or court of competent jurisdiction, Attimo shall not use the name of METABIOTA or METABIOTA's directors, officers, employees or representatives in any advertising, news release or other publication, without the prior express written consent from METABIOTA.

Article 7. Authorship and Specimen Ownership

7.1 Publication and Specimen Collections. Authorship on all resulting publications (reports, articles, books, etc.) produced under this Subcontract shall include people from both field and laboratory groups represented by Prime Contractor and Subcontractor only insofar as they contributed to the publication in a substantive way. Prior to initiation of writing any publications, the responsibilities for authorship for any given publication will be agreed upon by consensus of all parties. However, if a consensus by all parties is not reached within a reasonable period of time Subcontractor's Principal Investigator shall be free to publish independently and agrees to acknowledge Prime Contractor and/or give acknowledgment to Prime Contractor's scientists in publications or presentations, as scientifically appropriate. The Subcontractor's Principal Investigator and Subcontractor shall include Prime Contractor's scientists as co-authors on such publications, insofar as they provide any direct contributions to the work. All reports, articles, or books produced under this Subcontract shall conform to Attachment D – Mandatory Flow Down. Nothing in this contract limits the right of Subcontractor to produce derivative work products with the materials or data produced in the execution of this contract with the exception of the terms in this Agreement that require Prime Contractor's consent to use of name. The derivative work performed by the Subcontractor shall be at the risk of the Subcontractor exclusively.

7.2 Specimen Ownership. Inasmuch as applicable, for all resulting specimens collected under Subcontract, Prime Contractor, to the extent required to meet Prime Contractor's obligations under the Prime Agreement, shall retain an unlimited license to use, disclose, reproduce, and prepare derivative works, in any manner and or any purpose, and to have or permit others to do so.

Article 8. Miscellaneous Terms

8.1 Assignment. Subcontractor shall not assign, transfer or Subcontract its rights, interest, or obligations hereunder without the prior written consent of Prime Contractor and modification to this Subcontract.

8.2 Modifications. The terms and conditions of this Subcontract may be changed by mutual agreement of the parties. In the event that the Government modifies the terms and/or conditions of the Prime Agreement, Prime Contractor reserves the right to unilaterally modify the terms and/or conditions of this Subcontract to reflect the Government's modifications and, thereafter, to negotiate an adjustment, to the extent any such unilateral modification increases the Subcontractor's cost of performance, which modification shall be mutually agreed upon by Prime Contractor and the Subcontractor.

8.3 No Waivers. The failure of Prime Contractor to exercise any of its rights under this Subcontract shall not be deemed to be a waiver of such rights.

8.4 Force Majeure. Neither party shall be held liable or responsible to the other party nor be deemed to have defaulted under or breached this Agreement for failure or delay in fulfilling or performing any obligation under this Agreement the extent, and for so long as, such failure or delay is caused by or results from causes beyond the reasonable control of the affected party including but not limited to fires, earthquakes, floods, embargoes, wars, acts of war (whether war is declared or not), insurrections, riots, civil disturbances, strikes, lockouts or other labor disturbances, acts of God or any acts, omissions, or delays in acting by any governmental authority or the other party.

8.5 Export Control. Both parties will comply with any applicable export regulations, including the Export Administration Regulation and the International Traffic in Arms Regulation, in the conduct of the project. Neither party will transmit to the other any technical data, commodity, or technical assistance controlled under the export regulations without first securing the consent of the receiving party and modification of this agreement signed by the authorized official for each party.

8.6 Entire Subcontract. This Subcontract and its Attachments supersedes any prior or contemporaneous oral or written understandings or communications between the parties and constitutes the entire Subcontract of the parties with respect to its subject matter. This Subcontract may not be amended or modified, except in a writing signed by both parties.

8.7 Governing Law. This Subcontract shall be governed by the laws of the State of California.

8.8 No Liability. To the maximum extent permitted by applicable law, in no event shall Prime Contractor and Subcontractor be liable to the other party under any theory including contract and tort (both negligence and strict products liability) for any special, incidental, indirect, or consequential damages whatsoever (including, without limitation, damages for loss of business profit, business interruption, loss of business information, loss of goodwill) arising out of or relating to the Project. In addition, Prime Contractor and Subcontractor shall not be liable for losses, damages, claims, or other liabilities arising out of the other party's activities. It is expressly understood that Prime Contractor, by entering into this Subcontract, has no obligation to provide other or additional support to the Subcontractor for the purposes of this project or any other purposes.

8.9 Indemnification. The parties agree to defend, indemnify and hold one another, their officers, employees and agents harmless from and against any and all liability, loss, expense, attorneys' fees, or claims for injury or damages directly resulting from the performance of this Agreement but only in proportion to and to the extent such liability, loss, expense, attorneys' fees, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of the indemnifying party.

8.10 Severability. The illegality or invalidity of any provisions of this Subcontract shall not impair, affect or invalidate the other provisions of this Subcontract.

8.11 Protection of Research Subjects. If human or animal subjects are used in the conduct of the work performed under this Subcontract, the Subcontractor's protocol must be approved by the Subcontractor's office for the protection of research subjects in accordance with federal regulations, including 45 C.F.R. Part 46, the Office for Human Research Protections (OHRP), 9 C.F.R. Subchapter A under the Animal Welfare Act, and submitted to Prime Contractor.

8.12 Defense Base Act Insurance. Subcontractor shall be required to obtain Defense Base Act Insurance (DBA) in accordance with FAR clause 52.228-4 Workers Compensation and War Hazard Insurance Overseas. DBA insurance will be funded and provided for the Subcontractor by the Prime Contractor (Metabiota). Subcontractor shall provide all pertinent information to Prime Contractor in order to obtain adequate coverage.

Article 9. Attachments

This following Attachments to this Subcontract are incorporated by reference: Attachment A - Scope of Work and Deliverables, Attachment B – Labor Categories and Rates Table, Attachment C – T&M Invoice Template, and Attachment D – Mandatory Flow Down.

Article 10. Administrative and Technical Contacts

The following individuals shall serve as contacts for communications regarding this Subcontract:

Administrative

PRIME CONTRACTOR	**SUBCONTRACTOR**

METABIOTA

(b)(6) Contracts Administrator
Metabiota, Inc.
425 California Street, Suite 200
San Francisco, CA 94104
Phone: 202-335-2982
Email (b)(6)

(b)(6) Owner
Attimo Group LLC
2000 Kraft Drive STE 1108
Blacksburg, VA 24060
Phone: 443-320-3424
Fax :
Email: (b)(6)

Technical
PRIME CONTRACTOR
(b)(6)
Metabiota, Inc.
425 California Street, Suite 200
San Francisco, CA 94104
Phone: 301 312 2109
Email (b)(6)

SUBCONTRACTOR
(b)(6) Owner
Attimo Group LLC
2000 Kraft Drive STE 1108
Blacksburg, VA 24060
Phone: 443-320-3424
Fax :
Email: (b)(6)

Article 11. Travel

11.1 All travel shall be in compliance with the Prime Contract and/or Federal Travel Regulation (FTR) as specified in the Federal Acquisition Regulation (FAR) 31.205-46. There is no fee (profit) on travel costs permitted. Subcontractor shall comply with all Department of Defense Travel Requirements including Anti Terrorism Training (AT), Survival Evasion Resistance Escape Training (SERE) and Isolated Personnel Report (ISOPREP) Training.

11.2 Travel Costs and Logistics shall be provided by Prime Contractor.

In witness whereof, the parties hereto have executed this Subcontract as of the date last signed below.

Metabiota, Inc.

By: _____
(b)(6) Contracts Manager

Date: October 20, 2015

Subcontractor Name

By: _____
(b)(6) Owner

Date: _____

METABIOTA

Attachment A - Scope of Work and Deliverables

Project Summary:

Metabiota will support the Richard G. Lugar Center for Public Health Research of the Ministry of Agriculture in Georgia by providing subject matter expertise for grant proposal development to the National Center for Disease Control (NCDC) and Laboratory of Ministry of Agriculture (LMA). The project team, including subject matter experts provided by Attimo Group LLC, will collaborate to conduct this activity through from October 8, 2015-May 15, 2016. This activity will provide expertise in the following knowledge areas required for proposal submission to DTRA CBEP Broad Agency Announcement (BAA) or other competitive research solicitations: development of white papers; proposal preparation, editing, and submission; the development of accurate direct and indirect cost projections; the identification and articulation of scientific hypotheses; research data framing; and reviewing and responding to proposal evaluations and recommendations. Attimo will provide remote and on-site grantsmanship mentoring, editorial guidance, implementation of mentoring work plans, and identification of future mentorship stakeholder needs.

This collaboration will build a long-term partnership between key research and technical centers in Georgia and will nourish hypothesis-driven and translational research programs that result in sustainable funding and academic publications.

In order to conduct of this activity, Attimo Group LLC will act in the role of Project Team member and subject matter experts (SMEs).

Schedule/Timeline: This activity will take place Oct. 8, 2015-May 15, 2016.

Scope of Work:

Task 1: Project Coordination

1. NCDC and LMA Stakeholder Identification and Collaboration: the SMEs will identify key collaborators at NCDC and LMA. Through this coordination, the SMEs, stakeholders, and Metabiota will identify efforts for collaboration through this activity. The Project Team will then identify the level and type of mentoring activities that are required for the identified efforts.

2. Communication: The SMEs will develop a communication and coordination plan for the duration of this activity. The project team will hold regular (monthly) conference calls to initiate and maintain coordination, and ensure the project remains within scope, budget, and timeline.

3. Preparation: The SMEs will provide Metabiota with all contingent deliverables prior to any onsite travel and support. Such deliverables include, but are not limited to: Training Event Plan drafts (due 75 days prior to travel), Country Clearance Request (CCR) and Travel Approval Forms (TAF) (due 60 days prior to travel), and Traveler Trip Reports (due 5 days post-travel). SMEs will also relay any logistics needs, including the need for venues, participant travel, or interpretation/translation requirements to Metabiota no later than 60 days prior to scheduled activities.

4. Reports and Invoices: The SMEs will provide monthly invoices and reports detailing actions taken for implementation, challenges and lessons learned, and identifying next steps. The SMEs will provide a final project report, providing an overview of project implementation, overarching lessons learned, and identified next steps.

Task 2: In-Country and Remote Grantsmanship Mentoring

1. Mentorship Work Plan Development: SMEs will familiarize themselves with the current capabilities of identified Georgian stakeholders and identify an appropriate path forward with mentorship, including identifying a timeline of implementation and key milestones and goals (ex. number of proposal submissions, drafts of white papers, etc.). The mentorship work plan will include activities providing grantsmanship support, mentorship, and subject matter expertise to key NCDC and LMA stakeholders throughout the proposal development, protocol verification, and the proposal editing and submission process. SMEs will deliver this mentorship work plan to Metabiota for review and approval by Nov. 15, 2015.

2. Mentorship Work Plan Execution: The SMEs will implement the mentoring work plans, including providing expertise, mentorship, and guidance in the following topics: development of white papers; proposal preparation, editing, and submission; the development of accurate direct and indirect cost projections; the identification and articulation of scientific hypotheses; research data framing; and reviewing and responding to proposal evaluations and recommendations. The SMEs will provide deliverables to Metabiota, including white paper and proposal drafts, as outlined in the Mentorship Work Plan schedule.

3. On-site Mentorship: The SMEs will conduct two, one-week onsite mentorship visits to Tbilisi, Georgia. During these visits, the SME will provide mentorship, assess future mentorship types and needs, initiate and maintain mentorship work plans, and provide assistance with proposal writing as needed.

Task 3: Research-back SME Support

1. Authorship Support: The SME (SME 2) will provide occasional remote editorial guidance and limited assistance with drafting of select passages.
2. Additional SME Support Identification: The SMEs will regularly communicate status and anticipated SME support needs to Metabiota. If needs exceed those identified in the mentorship plan, the SMEs will provide Metabiota with a change request, including details regarding the source of need, proposed expansion to mentorship plan, and time and cost estimates to this expansion prior to the initiation of any additional mentorship to stakeholders.

Project Deliverables:

Task	Deliverable	Description	Delivery Date
1.	1.3.1 Travel Preparations	The SMEs will submit pre-travel preparation materials (TEP, CCR, TAF)	TEP due 75 days prior to scheduled travel. CCR and TAF due 60 days prior to travel
1.	1.3.2 Logistics	The SMEs will submit logistics needs (venue, participant	Due 60 days prior to scheduled activity

	Needs	travel, interpretation/translation). preparation materials (TEP, CCR, TAF)	
1.	1.3.3 Training Trip Reports	The SME will submit post-training trip reports (TTR)	5 days after the completion of travel
1.	1.4.Monthly Progress Reports	The SMEs will submit monthly progress reports relaying activities conducted and status of efforts, accomplishments, metrics, risks or barriers to task completion or overall project implementation.	Monthly (Due the last day of each month)
1.	1.4.2 Timesheets and Invoicing	The SMEs will submit monthly labor and materials invoices, including hour-based labor invoicing.	Monthly (Due the last day of each month)
1.	1.4.3 Final Project Report	The SMEs will submit a post-action report relaying all actions taken for implementation of all phases, lessons learned, and identifying next step opportunities upon completion of all deliverables.	April 30, 2016
2.	2.1.1 Mentorship Work Plan	The SMEs will submit the complete mentorship work plans for all mentorship activities	November 15, 2015
2.	2.1.2 Mentorship Work Plan Deliverables	The SMEs will submit all identified deliverables from the mentorship work plan per the approved schedule	TBD (All submission complete by April 30, 2016)

METABIOTA

Attachment B – Labor Categories and Rate Table

Ceiling Price
The total ceiling price shall be **$88,000.**

Payment Schedule
Payments shall be made on a monthly basis.

Labor Categories and Rates:

TD 017 Grantsmanship Support and Mentorship in Georgia			
Staff	Rate	Unit	Total
SME 2	$150.00	520	$78,000.00
Travel (cost reimbursable)	$5,000.00	2	$10,000.00
		Grand Total	**$88,000.00**

Currency Type
Payments shall be made in U.S. Dollars.

METABIOTA

Attachment C – T&M Invoice Template

Contract PoP:	**Invoice POP:**
Contract Name:	**Invoice #:**
Contract #:	**Remit Payment to:**
Bill To:	
Funded Total:	
Invoice Period of Performance:	

LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED
SME1					
RA					
TOTAL LABOR		0.00	0.00	0.00	0.00

OTHER COSTS INVOICED	CURRENT INVOICE	CUMULATIVE INVOICE
MATERIALS		
OTHER DIRECT COSTS		
TRAVEL		
TOTAL NON LABOR INVOICED	$ -	$ -
TOTAL INVOICE (Labor plus Other Costs)	0	$ -

The undersigned hereby certifies that the amount being invoiced represents only those amounts properly payable in accordance with the terms and conditions of the contract/subcontract and the official financial records.

By: _____
(signature)

Payment should be remitted to: (Please provide details for ACH or Wire Transfer)

Prime Contractor Program Manager:

Approved: _____

METABIOTA

PRICE NEGOTIATION MEMORANDUM

METABIOTA, INC./Attimo Group LLC

GENERAL INFORMATION:

Contractor name	Attimo Group LLC, DBA Attimo Research and Development
Proposal number	DTRA1-14-C-0104, TD-017
Proposal date	October 1, 2015
Proposal amount	$88,000.00
Negotiated amount	$88,000.00
Date negotiation completed	October 8, 2015

DESCRIPTION OF THE CONTRACT ACTION:

Purpose of negotiation (e.g., negotiate a new contract on sole source basis, definitization of a change order, negotiate an equitable adjustment):

- Proposed total price and time on a Time and Materials contract with Attimo Group LLC for a new contract on sole source basis on contract No. HDTRA1-14-C-0104. This PNM documents the proposed effort to support TD-017 as described in the SOW to implement Grantsmanship Support and Mentorship in Georgia. Participants in the subcontracting process are as follows:

Metabiota, Inc.	Attimo Group LLC
(b)(6)	(b)(6)

Description of the work (provide a brief summary of the general scope of the work encompassed by the action):

Metabiota will support the Richard G. Lugar Center for Public Health Research of the Ministry of Agriculture in Georgia by providing subject matter expertise for grant proposal development to the National Center for Disease Control (NCDC) and Laboratory of Ministry of Agriculture (LMA). The project team, including subject matter experts provided by Attimo Group LLC, will collaborate to conduct this activity through from Sept. 21, 2015-May 15, 2016. This activity will provide expertise in the following knowledge areas required for proposal submission to DTRA CBEP Broad Agency Announcement (BAA) or other competitive research solicitations: development of white papers; proposal preparation, editing, and submission; the development of accurate direct and indirect cost projections; the identification and articulation of scientific hypotheses; research data framing; and reviewing and responding to proposal evaluations and recommendations. Attimo will provide remote and on-site grantsmanship mentoring, editorial guidance, implementation of mentoring work plans, and identification of future mentorship stakeholder needs.

This collaboration will build a long-term partnership between key research and technical centers in Georgia and will nourish hypothesis-driven and translational research programs that result in sustainable funding and academic publications.

METABIOTA

APPROVALS AND COMPLIANCES:

Identify authority to negotiate (b)(6)
Justification and Approval (J&A) Yes/Date_X___ No_____N/A
Small Business subcontracting plan (FAR 19.702) was____ was not _X__applicable.
EEO clearance received (FAR 22.805) Yes____ No____ NA__X___
Offeror Is____ Is not_X__ on the Debarred, Ineligible & Suspended Bidder List (FAR 9.4).

SUMMARY OF THE CONTRACTOR'S PROPOSAL AND THE GOVERNMENT (NEGOTIATOR) OBJECTIVE:

	Contractor Proposed	Negotiated Amount
Total Cost	$88,000.00	$88,000.00
Indirect Cost	$0.00	$0.00
Total Price	**$88,000.00**	**$88,000.00**

NEGOTIATING PARTIES:

Identify the name position, organization and phone number/email of each person representing the contractor and the Government in the negotiation. Indicate the date(s) of the negotiation.

(b)(6)

Government	Name	Position	Organization	Phone/Email

METABIOTA

CURRENT STATUS OF CONTRACTOR'S SYSTEMS:

Indicate any change in the status of the contractor's systems, (e.g., purchasing, estimating, accounting and material management and accounting system) since execution of the prenegotiation objectives memorandum. If the status has changed indicate the impact on negotiations. **N/A**

Indicate any change in the status of the contractor's disclosure statement describing the contractor's cost accounting practices and procedures, and the date of the disclosure (FAR 30.202). If the status has changed since execution of the prenegotiation memorandum indicate the impact on negotiations. **N/A**

COST OR PRICING DATA:

Cost or pricing data was ___ was not _**X**_ required and obtained along with a Certificate of Current Cost and Pricing Data, which was executed by the contractor on__N/A_____.

Cost or pricing data was ___ was not __**X**_ relied on in negotiating the contract price.

Where certified cost or pricing data was not obtained based on an exception listed in FAR 15.403-1, indicate the exception.

Certified cost or pricing data was not obtained per FAR 15.403-1 (a) - Certified cost or pricing data shall not be obtained for acquisitions at or below the simplified acquisition threshold.

COST ANALYSIS:

The proposed subcontract is a sole source Time and Materials (T&M) contract evaluated upon completed technical and cost proposal from Attimo Group LLC to provide subject matter expertise and support to conduct Grantsmanship Support and Mentorship in Georgia. The T&M contract issued to Attimo Group LLC was determined to be the most appropriate mechanism for these services based on the fair and reasonable pricing submitted by the subcontractor and the Metabiota team's determination that this would be the most effective means to ensure efficient performance in the best interest of the government.

This determination was made following an internal review of the subcontractor's budget by Metabiota's financial, contract, and technical departments to determine overall reasonableness of the cost. The budget provided by the subcontractor included standard labor and overhead pricing for services. The subcontractor's indirect rate and fees are incorporated into the labor rates presented to Metabiota, and thus have been, by extension deemed to be reasonable. Rates were reasonable compared to those of other service providers with similar contract tasks and levels of experience and expertise; indeed the

rate structure presented by Attimo is substantially comparable to Metabiota's own rate structure with the US government client.

Cost Element	Contractor Proposed	Negotiation Objective	Negotiated Amount
1. Direct Labor	$78,000.00	$78,000.00	$78,000.00
2. Labor Overhead	$0.00	$0.00	$0.00
3. Equipment	$0.00	$0.00	$0.00
4. Material	$0.00	$0.00	$0.00
5. Material Overhead	$0.00	$0.00	$0.00
6. Travel	$10,000.00	$10,000.00	$10,000.00
7. Consultants	$0.00	$0.00	$0.00
8. Subcontracts	$0.00	$0.00	$0.00
9. Other Direct Costs	$0.00	$0.00	$0.00
Subtotal	$0.00	$0.00	$0.00
10. G&A (0%)	$0.00	$0.00	$0.00
11. Total Price	$88,000.00	$88,000.00	$88,000.00

NEGOTIATED OBJECTIVES TABLE

SIGNIFICANT FACTS AND IMPACTS BY OTHERS:
Determination to subcontract with Attimo Group LLC was deemed to be the most effective way to successfully conduct the training for the following reasons:

1. Attimo Group is a leader in mentorship and research support in the region and has established connections and established trust with the recipients of support, and is thereby singular in their ability to carry out the necessary requirements for this effort, particularly with the limited timeline for implementation completion. Metabiota has chosen to proceed with Attimo Group using a sole source justification, particularly as their cost proposal was determined to be fair and reasonable rates compared to similar standard requirements and their historical rates.
2. As time constraints associated with completing this activity, it was deemed unfeasible to identify, educate and engage another subcontractor to obtain this expertise. Therefore, Metabiota has chosen to proceed with Attimo Group LLC, using a sole source justification, and completing a full, and immediate review of their proposal to issue a T&M that would allow Metabiota to engage and complete the activity in the required time period.

DOCUMENTATION USED TO SUPPORT THE NEGOTIATION:
Indicate the following documents used to support the negotiation (Check all that are applicable)

METABIOTA

Cost and price analysis____
Technical analysis____
DCAA audit report____
Past performance reports__
Other (list) ___

DOCUMENTS ATTACHED TO THE PRICE NEGOTIATION MEMORANDUM:

- Sole Source Justification

_____ _____

PRINCIPAL NEGOTIATOR DATE
TITLE

_____ _____

ADMINISTRATIVE CONTRACTING OFFICER DATE
(If the ACO is not the principal negotiator)

_____ _____

APPROVING OFFICIAL DATE
TITLE

METABIOTA

SOLE SOURCE JUSTIFICATION FORM

- This form must accompany Subcontract Request Forms whenever a sole source purchase is requested. (*)

1. Vendor proposed as a Sole Source: Attimo Group LLC, DBA Attimo Research and Development
2. Please check all applicable categories below and provide additional information where indicated.
   - ☐ a. The requested product is an integral repair part or accessory compatible with existing equipment.
     - Existing Equipment Description: _____
     - Manufacturer/Model Number: _____
     - Age of the Equipment: _____ Current Value: _____
     - Asset or Original PO Number: _____
   - ☒ b. The requested product has unique design/performance specifications or quality requirements, which are essential to my research or teaching needs and are not available in comparable products.
   - ☒ c. The requested product is essential in maintaining research continuity and/or to remain in compliance with established university standards. (Check applicable category below.)
     - ☐ Requested product is being used in continuing research experiments.
     - ☐ I am collaborating with other investigators who have used this product and for compatibility of research results, I must also use it.
     - ☐ I have standardized the requested product and the use of another brand/model would require considerable time and funding to evaluate.
   - ☐ d. The requested product is one with which I and/or my staff have specialized training/extensive expertise, and retraining would incur substantial cost in time/money.
   - ☒ e. The requested provider of services has unique or exclusive capabilities that no other provider has.
   - ☐ f. Other factors are involved. (Provide detailed explanation below.)
3. Provide a detailed explanation for categories checked in 2a. through 2f. above. **(Make certain to include applicable information such as the activity, deliverables, supplies and/or services being procured, and where the work will be performed. Attach additional sheets if necessary.)**

   Attimo Group LLC has supported an array of research and capacity building activities with the Richard G. Lugar Center for Public Health Research of the Ministry of Agriculture in Georgia for a number of years, including direct research support with the National Center for Disease Control (NCDC) and Laboratory of Ministry of Agriculture (LMA), who are the intended recipients of mentorship and SME support through this activity. As such, Attimo Group is a leader in mentorship and research support in the region and has established connection and established trust with the recipients of support, and is thereby singular in their ability to carry out the necessary requirements for this effort, particularly with the limited timeline for implementation completion. Metabiota has chosen to proceed with Attimo Group using a sole source justification, particularly as their cost proposal was determined to be fair and reasonable rates compared to similar standard requirements and their historical rates.

4. Was an evaluation of other equipment, products, or services completed? ☐ YES ☒ NO.
   If yes, please attach the results of the evaluation.
5. List below the names of each individual who was involved in making the recommendation to sole source this purchase.

   (b)(6)

(*) It is the intent of Metabiota, Inc. to maintain competitive bidding, however sole source selections may sometimes be necessary. Subcontract Requests for goods and services that are to be purchased from a specific vendor or limited to a specific brand, where substitutes to the suggested vendor or brand are unacceptable, must be accompanied by a written justification explaining the circumstances that make alternatives unacceptable. ***The principal investigator, program manager, or director must sign the justification.*** *The individual signing the justification must disclose in writing whether or not he/she has a potential or actual conflict of interest. Metabiota employees who have a business relationship or financial interest (including that of a near relative) in the suggested vendor, who are conducting research for the suggested vendor, or who have received or anticipate receiving gifts, honorarium, or research grants from the suggested vendor must disclose the conflict of interest.*

The Contracts Manager will determine whether the justification is appropriate. Sole source justifications are to be supported by factual statements that shall pass an internal or Federal audit. It is the salient features of a product that make it a sole source.

5. I certify that I have read the above statement, that the information entered on this form is factual and that a signed copy of this Sole Source Justification document, and any associated disclosure statements, will be kept on file with the Contracts department

(b)(6)

_____ Europe Program Manager _____ 19 October 2015

Signature *Printed Name and Title* *Date*

**Must be Principal Investigator or Program Manager

METABIOTA

March 29, 2016

(b)(6) Contracting Officer
Defense Threat Reduction Agency (DTRA)/J4COC
8725 John J Kingman Rd, MSC 6201
Fort Belvoir, VA 22060

Sent via email to (b)(6)

Re: FAR 52.244-2 SUBCONTRACTS – Consent to Subcontract with Watermark
Academic Engagement Partnership (AEP), Cooperative Threat Reduction (CTR)
Contract No. HDTRA1-14-C-0104

Dear (b)(6)

Per FAR 52.244-2 Subcontracts, Metabiota, Inc. (Metabiota) requests Consent to Subcontract with Watermark Risk International, LLC to support TD-21 Iraq Field Epidemiology Training Program (FETP) Support. Included with this request are the following items:

- Draft Subcontract Agreement
- Price Negotiation Memorandum (PNM)

Metabiota will provide a comprehensive subcontractor budget once finalized.

Description of services to be subcontracted.
Watermark will provide subject matter expertise and programmatic support to Metabiota related to biosafety & biosecurity, biorisk management, and general risk management principles for overall Academic Engagement Partnership program implementation. Watermark's team will provide this support from the period of 1 February 2016 – 15 Nov 2016.

Type of subcontract to be used. *Time and Materials.*

Proposed Subcontractor. Watermark Risk International, LLC.

Proposed subcontract price. A preliminary estimation total TBD.

If you have questions or need additional information, I may be reached at (b)(6)
(b)(6)

Sincerely,

(b)(6)
Sr. Contracts Administrator

METABIOTA

DRAFT

SUBAGREEMENT

Between

METABIOTA, INC.
425 California Street, SUITE 200
SAN FRANCISCO, CA 94104

and

WATERMARK RISK MANAGEMENT INTERNATIONAL, LLC
4023 Maple Avenue, Suite 100
Fairfax, VA 22032

CONTRACT SUMMARY

Metabiota, Inc. Contract No.:	2016-01-DTRA
Performance Period:	01 February 2016- 15 November 2016
Contract Type:	Time and Materials
Contract Value:	TBD
Project Title:	**Biorisk Management Support for Metabiota AEP**
Metabiota, Inc. Project Manager:	(b)(6)

METABIOTA

AGREEMENT

This Subagreement ("Subagreement") is dated and effective as of the 10th of February 2016, between **Metabiota, Inc.** (herein referred to as "Metabiota" or "Prime Contractor"), a California corporation, located at 425 California Street, Suite 200, San Francisco, CA, 94104 and Watermark Risk International, LLC at 4023 Maple Avenue, Suite 100, Fairfax, VA 22032 (herein referred to as the "Subrecipient"). (Metabiota and the Subrecipient are each a "Party" and together are the "Parties").

WHEREAS, Prime Contractor was awarded Cooperative Agreement No. HDTRA-14-0104 (the "Prime Agreement") by the Academic Engagement Partnership (AEP), to implement the project, Biorisk Management Support for Metabiota AEP and,

WHEREAS, the Prime Contractor desires to purchase certain services from the Subrecipient for the Client; and,

WHEREAS, the Subrecipient is willing to provide services to the Prime Contractor in accordance with the terms and conditions set forth in this Subagreement.

NOW, THEREFORE, the parties hereby agree as follows:

Article 1. Subagreement Services

1.1 Statement of Work. The Subrecipient shall provide all necessary and qualified personnel, equipment, material and facilities to perform the services (hereinafter, the "Work") as set forth in Attachment A—Scope of Work.

1.2 Reporting. Prior to submission of an invoice, the Subrecipient shall submit a progress report to the Prime Contractor so that performance may be evaluated. The Prime Contractor may request additional information regarding the Subrecipient reports, for which the Subrecipient shall use reasonable best efforts to promptly address. The Prime Contractor will not consider award renewals for Subrecipients who fail to meet reporting requirements on a timely basis.

Article 2. Price, Contract Type, and Payment

2.1 Price. This Subagreement is a **Time and Materials Contract Type**. The ceiling price is **TBD** and is fully funded. The detailed budget may be found in Attachment B – Budget .

2.2 Invoicing and Payment. The Subrecipient shall submit invoices within five (5) calendar days of completion of deliverables as described in Attachment A. Prime Contractor shall remit payment to the Subrecipient within forty-five (45) days of receipt of a valid invoice.
The invoices shall contain the following information:

- Identify the milestone for which payment is requested in accordance with the Scope of Work. A sample invoice may be found in Attachment C – Invoice Template.
- Reference the Subagreement number 2016-01-DTRA.
- Invoice number
- Invoice date
- Name and address of Subrecipient (mailing address if different)
- Subagreement value and funding (in US Dollars)
- Signed by an authorized official of the Subrecipient
- A certification that reads substantially as follows: "The undersigned hereby certifies that the amount being invoiced represents only those amounts properly payable in accordance with the terms and conditions of the Subagreement and the official financial records".
- Invoices may be submitted via email or mail to the following addresses listed below:
  invoices@metabiota.com
  or

METABIOTA

Accounts Payable
Metabiota, Inc.
425 California Street, Suite 200
San Francisco, CA 94104

Payments shall be made in US Dollars via ACH or Wire to:
Bank Name: US Bank NA
Bank Address: 719 South Kansas Avenue, Topeka, KS 66603
Account Holder: State of Kansas KSU EFT
Account No: 145592399680
ABA Routing No: 101000187

Article 3. Nature of the Relationship

The Subrecipient and Prime Contractor acknowledge that although the Subrecipient may perform services pursuant to Prime Contractor's general instructions, the Subrecipient in all matters is and shall be deemed to be an independent contractor and the employees or agents of the Subrecipient shall not be or be deemed to be employees or agents of Prime Contractor for any purpose.

The Subrecipient is responsible and liable for the payment of all local sales, use, gross receipts, ad valorem, property, excise or other taxes that may be applicable to this Agreement.

This Agreement does not require either party to enter into further contractual or other relationships with the other. This Agreement does not create a partnership, joint venture, agency, or other business relationship.

Article 4. Period of Performance

4.1 Period of Performance. The period of performance under this Subagreement shall be from ***01 February 2016- 15 November 2016.***

4.2 This Subagreement may be terminated for convenience by either party by providing written notice to the other party thirty (30) calendar days in advance of a specified date of termination.

4.3 This Subagreement may be terminated by Prime Contractor upon written notice in the event of substantial failure by the Subrecipient to perform in accordance with the terms of this Agreement. In the event that the Subrecipient shall default in the performance of any obligation to be performed by it under this Agreement and shall fail to correct such default within ten (10) calendar days following written notice thereof from Prime Contractor. The Prime Contractor may hold in abeyance further payments to the Subrecipient and/or terminate this Agreement by written notice to the Subrecipient specifying the date of termination. Following a termination for default of this Agreement, Subrecipient shall be compensated for all completed Services to the extent that Integrating Subrecipient is reimbursed by Prime Contractor for the Subrecipient's services.

4.4 Performance by the Subrecipient may be terminated by Prime Contractor at any time by written notice to the Subrecipient in the event that Prime Contractor's funding is terminated.

4.5 In the event of termination, Prime Contractor will reimburse the Subrecipient for allowable Subagreement Costs up to and including non-cancelable obligations properly incurred prior to the date of termination, provided such costs are allowable do not exceed the stated maximum amount payable.

Article 5. Confidentiality

In order to facilitate the Subagreement Services, Prime Contractor may disclose to the Subrecipient information that it considers confidential or proprietary ("Confidential Information"). Confidential or proprietary information is defined as any information disclosed by one Party (the "Disclosing Party") to the other Party (the "Receiving Party") in a written or tangible form and shall be marked as

"Confidential" or "Proprietary", or if disclosed orally or visually, identified as confidential and/or proprietary at the time of disclosure (which is reduced to writing and so marked within a reasonable time, not to exceed sixty (60) days, thereafter). The Subrecipient will hold in confidence any Confidential Information disclosed by Prime Contractor, and will not use Confidential Information for any purpose except in furtherance of the Subagreement Services. The Subrecipient will take reasonable and prudent precautions to protect the Confidential Information disclosed by Prime Contractor pursuant to this Subagreement. This obligation of confidentiality shall not, however, apply to information which: (i) was known to the Subrecipient and was not proprietary to Prime Contractor prior to the time of disclosure, as demonstrated by competent written evidence; (ii) was part of the public domain prior to the time of disclosure; (iii) becomes part of the public domain after the time of disclosure other than through any act or omission of the Subrecipient in breach of this Subagreement; (iv) is independently developed by the Subrecipient or those employees, contractors, and other researchers directly engaged by the Subrecipient without access to, use of, or regard to the Confidential Information disclosed to it by Prime Contractor. The above confidentiality and non-use obligations shall expire five (5) years following the conclusion of the Subagreement Services hereunder.

Article 6. Data, Publications and Copyrights

6.1 Subrecipient's researchers are free to publish the results of research supported thereunder, however, Subrecipient's Principal Investigator shall supply a copy of any such publication(s) or reports to Prime Contractor's Principal Investigator sixty (60) days prior to release.

b. Subject to its legal ability to do so, Subrecipient hereby grants Prime Contractor license to use data created in the performance of this Agreement to the extent required to meet Prime Contractor's obligations under the Prime Agreement.

d. Subject to its legal ability to do so, Subrecipient hereby grants to Prime Contractor an irrevocable, royalty-free, non-transferable, non-exclusive right and license to reproduce, make derivative works, display, and perform publicly any copyrightable or copyrighted material (including any computer software and its documentation and/ or database) developed and delivered under this Agreement to the extent required to meet Prime Contractor's obligations under the Prime Agreement.

Article 7. Authorship and Specimen Ownership

7.1 Publication and Specimen Collections. Authorship on all resulting publications (reports, articles, books, etc.) produced under this Subagreement shall include people from both field and laboratory groups represented by Prime Contractor and Subrecipient. Prior to initiation of writing any publications, the responsibilities for authorship for any given publication will be agreed upon by consensus of all parties. However, if a consensus by all parties is not reached within a reasonable period of time Subrecipient's Principal Investigator shall be free to publish independently and agrees to acknowledge Prime Contractor and/or give acknowledgment to Prime Contractor's scientists in publications or presentations, as scientifically appropriate. The Subrecipient's Principal Investigator and Subrecipient shall include Prime Contractor's scientists as co-authors on such publications, based on any direct contributions they make to the work.

7.2 Specimen Ownership. For all resulting specimens collected under Subagreement, Prime Contractor, to the extent required to meet Prime Contractor's obligations under the Prime Agreement, shall retain an unlimited license to use, disclose, reproduce, and prepare derivative works, in any manner and or any purpose, and to have or permit others to do so.

Article 8. Miscellaneous Terms

8.1 Assignment. Subrecipient shall not assign, transfer or Subagreement its rights, interest, or obligations hereunder without the prior written consent of Prime Contractor and modification to this Subagreement.

8.2 Modifications. The terms and conditions of this Subagreement may be changed by mutual agreement of the parties. In the event that the Government modifies the terms and/or conditions of the Prime Agreement, Prime Contractor reserves the right to unilaterally modify the terms and/or conditions of this

Subagreement to reflect the Government's modifications and, thereafter, to negotiate an adjustment, to the extent any such unilateral modification increases the Subrecipient's cost of performance, which modification shall be mutually agreed upon by Prime Contractor and the Subrecipient.

8.3 No Waivers. The failure of Prime Contractor to exercise any of its rights under this Subagreement shall not be deemed to be a waiver of such rights.

8.4 Force Majeure. Neither party shall be held liable or responsible to the other party nor be deemed to have defaulted under or breached this Agreement for failure or delay in fulfilling or performing any obligation under this Agreement the extent, and for so long as, such failure or delay is caused by or results from causes beyond the reasonable control of the affected party including but not limited to fires, earthquakes, floods, embargoes, wars, acts of war (whether war is declared or not), insurrections, riots, civil disturbances, strikes, lockouts or other labor disturbances, acts of God or any acts, omissions, or delays in acting by any governmental authority or the other party.

8.5 Export Control. Both parties will comply with any applicable export regulations, including the Export Administration Regulation and the International Traffic in Arms Regulation, in the conduct of the project. Neither party will transmit to the other any technical data, commodity, or technical assistance controlled under the export regulations without first securing the consent of the receiving party and modification of this agreement signed by the authorized official for each party.

8.6 Entire Subagreement. This Subagreement and its Attachments supersedes any prior or contemporaneous oral or written understandings or communications between the parties and constitutes the entire Subagreement of the parties with respect to its subject matter. This Subagreement may not be amended or modified, except in a writing signed by both parties.

8.7 Governing Law. This Subagreement shall be governed by the laws of the State of California.

8.8 No Liability. To the maximum extent permitted by applicable law, in no event shall Prime Contractor and Subrecipient be liable to other party under any theory including contract and tort (both negligence and strict products liability) for any special, incidental, indirect, or consequential damages whatsoever (including, without limitation, damages for loss of business profit, business interruption, loss of business information, loss of goodwill) arising out of or relating to the Project. In addition, Prime Contractor and Subrecipient shall not be liable for losses, damages, claims, or other liabilities arising out of other party's activities. It is expressly understood that Prime Contractor, by entering into this Subagreement, has no obligation to provide other or additional support to the Subrecipient for the purposes of this project or any other purposes.

8.9 Indemnification. The parties agree to defend, indemnify and hold one another, their officers, employees and agents harmless from and against any and all liability, loss, expense, attorneys' fees, or claims for injury or damages directly resulting from the performance of this Agreement but only in proportion to and to the extent such liability, loss, expense, attorneys' fees, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of the indemnifying party.

8.10 Severability. The illegality or invalidity of any provisions of this Subagreement shall not impair, affect or invalidate the other provisions of this Subagreement.

8.11 Protection of Research Subjects. If human or animal subjects are used in the conduct of the work performed under this Subagreement, the Subrecipient's protocol must be approved by the Subrecipient's office for the protection of research subjects in accordance with federal regulations, including 45 C.F.R. Part 46, the Office for Human Research Protections (OHRP), 9 C.F.R. Subchapter A under the Animal Welfare Act, and submitted to Prime Contractor.

Article 9. Attachments

METABIOTA

This following Attachments to this Subagreement are incorporated by reference: Attachment A - Scope of Work, Attachment B – Invoice Template, Attachment C – Mandatory Flow Down.

Article 10. Administrative and Technical Contacts

The following individuals shall serve as contacts for communications regarding this Subagreement:

Administrative

PRIME CONTRACTOR	**SUBRECIPIENT**
(b)(6) Sr. Contracts Manager	[Name & Title]
Metabiota, Inc.	[Organization Name]
425 California Street, Suite 200	[Organization Address]
San Francisco, CA 94104	
Phone: 703-999-3080	Phone:
Email: (b)(6)	Fax :
	Email:

Technical

PRIME CONTRACTOR	**SUBRECIPIENT**
(b)(6)	Name & Title]
Metabiota, Inc.	[Organization Name]
1 Sutter Street, Suite 600	[Organization Address]
San Francisco, CA 94104	
Phone:202-412-4970	Phone:
Email: (b)(6)	Fax :
	Email:

Article 11. Travel

All travel shall be in compliance with the Prime Contract and/or Federal Travel Regulation (FTR) as specified in the Federal Acquisition Regulation (FAR) 31.205-46. The Subrecipient shall provide a detailed itinerary to the Prime Contractor twenty-one (21) days prior to travel.

In witness whereof, the parties hereto have executed this Subagreement as of the date last signed below.

Metabiota, Inc.	**Subrecipient Name**
By: _____	By: _____
(b)(6) Sr. Contracts Manager	[Name, Title of authorized official]
Date:	Date: _____

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Attachment A - Scope of Work

Statement of Work

Summary:
Watermark will provide subject matter expertise and programmatic support to Metabiota related to biosafety & biosecurity, biorisk management, and general risk management principles for overall Academic Engagement Partnership program implementation. Watermark's team will provide this support from the period of 1 February 2016 – 15 Nov 2016.

Scope of Work:
Task 1: Administrative Coordination

1. Communication: The SME(s) will participate in conference calls and email communications with the Metabiota AEP program management team as needed. When requested SME(s) will provide inputs to minutes and action item lists resulting from said communications.
2. Preparation: The SMEs will provide Metabiota with all contingent deliverables prior to any onsite travel and support. Such deliverables include, but are not limited to: Training Event Plan drafts (due 75 days prior to travel), Country Clearance Request (CCR) and Travel Approval Forms (TAF) (due 60 days prior to travel), and Traveler Trip Reports (due 5 days post-travel). SMEs will also relay any logistics needs, including the need for venues, participant travel, or interpretation/translation requirements to Metabiota no later than 60 days prior to scheduled activities.
3. Reports and Invoices: The SME(s) will provide monthly invoices and reports detailing the actions taken and support provided.

Task 2: Biosafety/Biosecurity/Biorisk management/General risk management Subject Matter Expertise

1. General: Watermark will provide requested expertise to Metabiota to inform discussions with the DTRA client, requirements definition, proposal development, review of technical materials, or other tasks as needed. Expertise will be provided either verbally or in written form, as requested by Metabiota.
2. Studies and Analyses: Watermark will conduct program- and portfolio-wide studies as needed to determine BS&S/BRM implications of current and future initiatives and develop requirements for mitigation; infrastructure and capacity assessments, gap analyses and provide associated recommendations.
3. ***Option to be exercised at Metabiota's discretion*** – Training: Watermark will execute training activities associated with BS&S/BRM subject matter including but not limited to training and exercise planning and development; review, modification and development of training content; and course and exercise delivery.

Option to be exercised at Metabiota's discretion – Task 3: Travel to support Task 2
Watermark has the right to refuse travel to locations that present an undue security risk to

team members; however, Watermark must inform Metabiota of that refusal no later than 2 weeks after the destination country has been identified.

1. Watermark SMEs will complete all DoD-required training and documentation including AT/FP training, SERE training, and ISOPREP documentation.
2. Watermark SMEs will complete all required and recommended medical preparations prior to travel.
3. Watermark SMEs will travel as needed to support Task 2. Travel destinations and schedules will be determined through coordination with the Metabiota AEP program management team.

Deliverables:

Deliverable	Task	Description	Delivery Date
1. General written notes	1.1		48 hours after request
2. Monthly progress reports	1.3	Watermark will submit monthly progress reports relaying activities conducted and status of efforts, accomplishments, metrics, risks or barriers to task completion or overall project implementation.	Monthly (Due the last day of each month)
3. Timesheets and Invoicing	1.3	Watermark will submit one invoice per month for labor incurred, materials purchased, and travel costs. Labor shall be invoiced by labor category.	Monthly (Due the last day of each month)
4. Travel Preparations	1.2, 2.3, 3.1	The SMEs will submit pre-travel preparation materials (TEP, CCR, TAF)	TEP due 75 days prior to scheduled travel. CCR and TAF due 60 days prior to travel
5. Training Trip Reports	1.3, 3.3	The SME will submit post-training trip reports (TTR)	5 days after the completion of travel
6. Reports and Analyses	2.1, 2.2		As needed
7. Training and Exercise Documentation	2.2, 2.3		As needed

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Attachment B– T&M Invoice Template

Contract PoP:	**Invoice POP:**
Contract Name:	**Invoice #:**
Contract #:	**Remit Payment to:**
Bill To:	
Funded Total:	

LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED
TOTAL LABOR		0.00	0.00	0.00	0.00

OTHER COSTS INVOICED	CURRENT INVOICE	CUMULATIVE INVOICE
MATERIALS		
OTHER DIRECT COSTS		
TRAVEL		
TOTAL NON LABOR INVOICED	$ -	$ -
TOTAL INVOICE (Labor plus Other Costs)	0	$ -

The undersigned hereby certifies that the amount being invoiced represents only those amounts properly payable in accordance with the terms and conditions of the contract/subcontract and the official financial records.

By: _____
(Signature)

Payment should be remitted to (Please provide details for ACH or Wire Transfer):

Prime Contractor Program Manager:

Approved: _____

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Attachment C – Mandatory Flow Down

Section I - Contract Clauses

CLAUSES INCORPORATED BY REFERENCE

52.202-1	Definitions	JAN 2012
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-6	Restrictions On Subcontractor Sales To The Government	SEP 2006
52.203-6	Restrictions On Subcontractor Sales To The Government	SEP 2006
52.203-7	Anti-Kickback Procedures	OCT 2010
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	JAN 1997
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	OCT 2010
52.203-13	Contractor Code of Business Ethics and Conduct	APR 2010
52.203-17	Contractor Employee Whistleblower Rights and Requirement To Inform Employees of Whistleblower Rights	SEP 2013
52.204-4	Printed or Copied Double-Sided on Postconsumer Fiber Content Paper	MAY 2011
52.204-6	Data Universal Numbering System Number	JUL 2013
52.204-10	Reporting Executive Compensation and First-Tier Subcontract Awards	JUL 2013
52.204-13	System for Award Management Maintenance	JUL 2013
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment	AUG 2013
52.209-10	Prohibition on Contracting With Inverted Domestic Corporations	MAY 2012
52.215-2	Audit and Records--Negotiation	OCT 2010
52.215-2 Alt II	Audit and Records--Negotiation (Oct 2010) - Alternate II	APR 1998
52.215-8	Order of Precedence--Uniform Contract Format	OCT 1997
52.215-15	Pension Adjustments and Asset Reversions	OCT 2010
52.215-17	Waiver of Facilities Capital Cost of Money	OCT 1997
52.215-18	Reversion or Adjustment of Plans for Postretirement Benefits (PRB) Other than Pensions	JUL 2005

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52.215-23	Limitations on Pass-Through Charges	OCT 2009
52.215-23 Alt I	Limitations on Pass-Through Charges (Oct 2009) - Alternate I	OCT 2009
52.216-7	Allowable Cost And Payment	JUN 2013
52.216-15	Predetermined Indirect Cost Rates	APR 1998
52.219-8	Utilization of Small Business Concerns	JUL 2013
52.219-9	Small Business Subcontracting Plan	JUL 2013
52.219-16	Liquidated Damages-Subcontracting Plan	JAN 1999
52.219-28	Post-Award Small Business Program Rerepresentation	JUL 2013
52.222-2	Payment For Overtime Premiums	JUL 1990
52.222-3	Convict Labor	JUN 2003
52.222-21	Prohibition Of Segregated Facilities	FEB 1999
52.222-26	Equal Opportunity	MAR 2007
52.222-35	Equal Opportunity for Veterans	SEP 2010
52.222-36	Affirmative Action For Workers With Disabilities	OCT 2010
52.222-37	Employment Reports on Veterans	SEP 2010
52.222-40	Notification of Employee Rights Under the National Labor Relations Act	DEC 2010
52.222-50	Combating Trafficking in Persons	FEB 2009
52.222-54	Employment Eligibility Verification	AUG 2013
52.223-6	Drug-Free Workplace	MAY 2001
52.223-18	Encouraging Contractor Policies To Ban Text Messaging While Driving	AUG 2011
52.225-13	Restrictions on Certain Foreign Purchases	JUN 2008
52.227-1 Alt I	Authorization And Consent (Dec 2007) - Alternate I	APR 1984
52.227-2	Notice And Assistance Regarding Patent And Copyright Infringement	DEC 2007
52.227-11 Alt II	Patent Rights--Ownership by the Contractor (Dec 2007) - Alternate II	DEC 2007
52.228-7	Insurance --Liability To Third Persons	MAR 1996
52.232-9	Limitation On Withholding Of Payments	APR 1984
52.232-17	Interest	OCT 2010
52.232-18	Availability Of Funds	APR 1984
52.232-22	Limitation Of Funds	APR 1984
52.232-23	Assignment Of Claims	JAN 1986
52.232-25	Prompt Payment	JUL 2013
52.232-25 Alt I	Prompt Payment (July 2013) Alternate I	FEB 2002
52.232-33	Payment by Electronic Funds Transfer--System for Award Management	JUL 2013
52.232-40	Providing Accelerated Payments to Small Business Subcontractors	DEC 2013
52.233-1	Disputes	JUL 2002

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52.233-3	Protest After Award	AUG 1996
52.233-4	Applicable Law for Breach of Contract Claim	OCT 2004
52.236-5	Material and Workmanship	APR 1984
52.236-7	Permits and Responsibilities	NOV 1991
52.242-1	Notice of Intent to Disallow Costs	APR 1984
52.242-3	Penalties for Unallowable Costs	MAY 2001
52.242-4	Certification of Final Indirect Costs	JAN 1997
52.242-13	Bankruptcy	JUL 1995
52.242-15 Alt I	Stop-Work Order (Aug 1989) - Alternate I	APR 1984
52.243-1 Alt V	Changes--Fixed-Price (Aug 1987) - Alternate V	APR 1984
52.245-1 Alt II	Government Property (Apr 2012) Alternate II	APR 2012
52.245-9	Use And Charges	APR 2012
52.246-4	Inspection Of Services--Fixed Price	AUG 1996
52.249-9	Default (Fixed-Priced Research And Development)	APR 1984
52.251-1	Government Supply Sources	APR 2012
52.252-2	Clauses Incorporated By Reference	FEB 1998
52.253-1	Computer Generated Forms	JAN 1991
252.201-7000	Contracting Officer's Representative	DEC 1991
252.203-7000	Requirements Relating to Compensation of Former DoD Officials	SEP 2011
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense-Contract-Related Felonies	DEC 2008
252.203-7002	Requirement to Inform Employees of Whistleblower Rights	SEP 2013
252.204-7006	Billing Instructions	OCT 2005
252.211-7003	Item Identification and Valuation	JUN 2013
252.211-7007	Reporting of Government-Furnished Property	AUG 2012
252.215-7002	Cost Estimating System Requirements	DEC 2012
252.215-7003	Requirement for Submission of Data Other Than Certified Cost or Pricing Data--Canadian Commercial Corporation.	JUL 2012
252.222-7006	Restrictions on the Use of Mandatory Arbitration Agreements	DEC 2010
252.225-7006	Quarterly Reporting of Actual Contract Performance Outside the United States	OCT 2010
252.226-7001	Utilization of Indian Organizations and Indian-Owned Economic Enterprises, and Native Hawaiian Small Business Concerns	SEP 2004
252.227-7013	Rights in Technical Data--Noncommercial Items	JUN 2013
252.227-7016	Rights in Bid or Proposal Information	JAN 2011
252.227-7027	Deferred Ordering Of Technical Data Or Computer Software	APR 1988
252.227-7030	Technical Data--Withholding Of Payment	MAR 2000

252.227-7037	Validation of Restrictive Markings on Technical Data	JUN 2013
252.227-7039	Patents--Reporting Of Subject Inventions	APR 1990
252.232-7003	Electronic Submission of Payment Requests and Receiving Reports	JUN 2012
252.232-7010	Levies on Contract Payments	DEC 2006
252.235-7011	Final Scientific or Technical Report	NOV 2004
252.243-7002	Requests for Equitable Adjustment	DEC 2012
252.244-7000	Subcontracts for Commercial Items	JUN 2013
252.244-7001	Contractor Purchasing System Administration	JUN 2012
252.245-7000	Government-Furnished Mapping, Charting, and Geodesy Property	APR 2012
252.245-7001	Tagging, Labeling, and Marking of Government-Furnished Property	APR 2012
252.245-7002	Reporting Loss of Government Property	APR 2012
252.247-7024	Notification Of Transportation Of Supplies By Sea	MAR 2000
252.251-7000	Ordering From Government Supply Sources	AUG 2012

CLAUSES INCORPORATED BY FULL TEXT

252.216-9005 PROFIT OR FEE ON TRAVEL COSTS (JUL 2008)
Travel shall not be a profit or fee bearing cost element.

252.203-9000 Prohibition on the Use of Senior Mentors (JUNE 2010)
(a) The use of senior mentors by the Defense Threat Reduction Agency (DTRA) enhances the readiness of the Agency across a wide range of strategic, operational, joint, functional, technical, management and development mission areas. The relevant prior service, joint force experience, and unique expertise of these senior consultants provide senior leadership with valuable insights and contribute to the continuous improvement of the Agencies' operations.

(b) For the purposes of this clause, Senior Mentor is defined as a retired flag, general or other military officers (O-6) or retired senior civilian official (Senior Executive Service (SES), Senior Level (SL), Scientific and Professional (ST)) who provides expert experience-based mentoring, teaching, training, advice, and recommendations to senior military officers, staffs and students as they participate in war games, warfighting courses, operational planning, operational exercises, and decision-making exercises.

(c) In accordance with Secretary of Defense Memorandum entitled "Policy on Senior Mentors" dated April 1, 2010, DTRA will hire all senior mentors as highly qualified experts (HQE) under 5 U.S.C. 9903. This policy balances the need for DTRA to secure the specialized knowledge required for these operational exercises with the need to hire such experts in a manner that promotes public trust and confidence.

(d) The Contractor shall not include the use of senior mentors in bids or proposals for services/supplies offered to DTRA.

(e) The Contractor shall include the substance of this clause in all subcontracts.

252.216-9003 CONSULTANTS (OCT 1998)
Services of consultants shall be at rates and for periods approved in advance by the Contracting Officer. Requests for approval shall be submitted to the Contracting Officer sufficiently in advance of the need to use a consultant under this Contract. The request shall include (a) a copy of the proposed consultant agreement, (b) a brief biography of the consultant, and (c) an indication of the area(s) in which consultant's expertise will be utilized and why it is essential for contract performance. In addition, significant deviations from the dollar amount approved for consultant services, or changes in the consultants to be utilized, must likewise be approved in advance upon submission of adequate justification.

52.217-6 OPTION FOR INCREASED QUANTITY (MAR 1989)
The Government may increase the quantity of supplies called for in the Schedule at the unit price specified. The Contracting Officer may exercise the option by written notice to the Contractor within 60 days. Delivery of the added items shall continue at the same rate as the like items called for under the contract, unless the parties otherwise agree.

52.219-9 SMALL BUSINESS SUBCONTRACTING PLAN (JULY 2013)
(a) This clause does not apply to small business concerns.

(b) Definitions. As used in this clause--

"Alaska Native Corporation (ANC)" means any Regional Corporation, Village Corporation, Urban Corporation, or Group Corporation organized under the laws of the State of Alaska in accordance with the Alaska Native Claims Settlement Act, as amended (43 U.S.C. 1601, et seq.) and which is considered a minority and economically disadvantaged concern under the criteria at 43 U.S.C. 1626(e)(1). This definition also includes ANC direct and indirect subsidiary corporations, joint ventures, and partnerships that meet the requirements of 43 U.S.C. 1626(e)(2).

"Commercial item" means a product or service that satisfies the definition of commercial item in section 2.101 of the Federal Acquisition Regulation.

"Commercial plan" means a subcontracting plan (including goals) that covers the offeror's fiscal year and that applies to the entire production of commercial items sold by either the entire company or a portion thereof (e.g., division, plant, or product line).

"Electronic Subcontracting Reporting System (eSRS)" means the Governmentwide, electronic, web-based system for small business subcontracting program reporting. The eSRS is located at http://www.esrs.gov.

"Indian tribe" means any Indian tribe, band, group, pueblo, or community, including native villages and native groups (including corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act (43 U.S.C.A. 1601 et seq.), that is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs in accordance with 25 U.S.C. 1452(c). This definition also includes Indian-owned economic enterprises that meet the requirements of 25 U.S.C. 1452(e).

"Individual contract plan" means a subcontracting plan that covers the entire contract period (including option periods), applies to a specific contract, and has goals that are based on the offeror's planned subcontracting in support of the specific contract except that indirect costs incurred for common or joint purposes may be allocated on a prorated basis to the contract.

"Master plan" means a subcontracting plan that contains all the required elements of an individual contract plan, except goals, and may be incorporated into individual contract plans, provided the master plan has been approved.

"Subcontract" means any agreement (other than one involving an employer-employee relationship) entered into by a Federal Government prime Contractor or subcontractor calling for supplies or services required for performance of the contract or subcontract.

(c) The offeror, upon request by the Contracting Officer, shall submit and negotiate a subcontracting plan, where applicable, that separately addresses subcontracting with small business concerns, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business concerns, small disadvantaged business, and with women-owned small business concerns. If the offeror is submitting an individual contract plan, the plan must separately address subcontracting with small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns with a separate part for the basic contract and separate parts for each option (if any). The plan shall be included in and made a part of the resultant contract. The subcontracting plan shall be negotiated within the time specified by the Contracting Officer. Failure to submit and negotiate the subcontracting plan shall make the offeror ineligible for award of a contract.

(d) The offeror's subcontracting plan shall include the following:

(1) Goals, expressed in terms of percentages of total planned subcontracting dollars, for the use of small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns as subcontractors. The offeror shall include all subcontracts that

contribute to contract performance, and may include a proportionate share of products and services that are normally allocated as indirect costs. In accordance with 43 U.S.C. 1626:

(i) Subcontracts awarded to an ANC or Indian tribe shall be counted towards the subcontracting goals for small business and small disadvantaged business (SDB) concerns, regardless of the size or Small Business Administration certification status of the ANC or Indian tribe.

(ii) Where one or more subcontractors are in the subcontract tier between the prime contractor and the ANC or Indian tribe, the ANC or Indian tribe shall designate the appropriate contractor(s) to count the subcontract towards its small business and small disadvantaged business subcontracting goals.

(A) In most cases, the appropriate Contractor is the Contractor that awarded the subcontract to the ANC or Indian tribe.

(B) If the ANC or Indian tribe designates more than one Contractor to count the subcontract toward its goals, the ANC or Indian tribe shall designate only a portion of the total subcontract award to each Contractor. The sum of the amounts designated to various Contractors cannot exceed the total value of the subcontract.

(C) The ANC or Indian tribe shall give a copy of the written designation to the Contracting Officer, the prime Contractor, and the subcontractors in between the prime Contractor and the ANC or Indian tribe within 30 days of the date of the subcontract award.

(D) If the Contracting Officer does not receive a copy of the ANC's or the Indian tribe's written designation within 30 days of the subcontract award, the Contractor that awarded the subcontract to the ANC or Indian tribe will be considered the designated Contractor.

(2) A statement of --

(i) Total dollars planned to be subcontracted for an individual contract plan; or the offeror's total projected sales, expressed in dollars, and the total value of projected subcontracts to support the sales for a commercial plan;

(ii) Total dollars planned to be subcontracted to small business concerns (including ANC and Indian tribes);

(iii) Total dollars planned to be subcontracted to veteran-owned small business concerns;

(iv) Total dollars planned to be subcontracted to service-disabled veteran-owned small business;

(v) Total dollars planned to be subcontracted to HUBZone small business concerns;

(vi) Total dollars planned to be subcontracted to small disadvantaged business concerns (including ANCs and Indian tribes); and

(vii) Total dollars planned to be subcontracted to women-owned small business concerns.

(3) A description of the principal types of supplies and services to be subcontracted, and an identification of the types planned for subcontracting to --

(i) Small business concerns,

(ii) Veteran-owned small business concerns;

(iii) Service-disabled veteran-owned small business concerns;

(iv) HUBZone small business concerns;

(v) Small disadvantaged business concerns, and

(vi) Women-owned small business concerns.

(4) A description of the method used to develop the subcontracting goals in paragraph (d)(1) of this clause.

(5) A description of the method used to identify potential sources for solicitation purposes (e.g., existing company source lists, the System for Award Management (SAM), veterans service organizations, the National Minority Purchasing Council Vendor Information Service, the Research and Information Division of the Minority Business Development Agency in the Department of Commerce, or small, HUBZone, small disadvantaged, and women-owned small business trade associations). A firm may rely on the information contained in SAM as an accurate representation of a concern's size and ownership characteristics for the purposes of maintaining a small, veteran-owned small, service-disabled veteran-owned small, HUBZone small, small disadvantaged, and women-owned small business source list. Use of SAM as its source list does not relieve a firm of its responsibilities (e.g., outreach, assistance, counseling, or publicizing subcontracting opportunities) in this clause.

(6) A statement as to whether or not the offeror included indirect costs in establishing subcontracting goals, and a description of the method used to determine the proportionate share of indirect costs to be incurred with --

(i) Small business concerns (including ANC and Indian tribes);

(ii) Veteran-owned small business concerns;

(iii) Service-disabled veteran-owned small business concerns;

(iv) HUBZone small business concerns;

(v) Small disadvantaged business concerns (including ANC and Indian tribes); and

(vi) Women-owned small business concerns.

(7) The name of the individual employed by the offeror who will administer the offeror's subcontracting program, and a description of the duties of the individual.

(8) A description of the efforts the offeror will make to assure that small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns have an equitable opportunity to compete for subcontracts.

(9) Assurances that the offeror will include the clause of this contract entitled "Utilization of Small Business Concerns" in all subcontracts that offer further subcontracting opportunities, and that the offeror will require all subcontractors (except small business concerns) that receive subcontracts in excess of $650,000 ($1.5 million for construction of any public facility with further subcontracting possibilities) to adopt a plan similar to the plan that complies with the requirements of this clause.

(10) Assurances that the offeror will --

(i) Cooperate in any studies or surveys as may be required;

(ii) Submit periodic reports so that the Government can determine the extent of compliance by the offeror with the subcontracting plan;

(iii) Submit the Individual Subcontract Report (ISR) and/or the Summary Subcontract Report (SSR), in accordance with paragraph (l) of this clause using the Electronic Subcontracting Reporting System (eSRS) at http://www.esrs.gov. The reports shall provide information on subcontract awards to small business concerns (including ANCs and Indian tribes that are not small businesses), veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns (including ANCs and Indian tribes that have not been certified by the Small Business Administration as small disadvantaged businesses), women-owned small business concerns, and Historically Black Colleges and Universities and Minority Institutions. Reporting shall be in accordance with this clause, or as provided in agency regulations;

(iv) Ensure that its subcontractors with subcontracting plans agree to submit the ISR and/or the SSR using eSRS;

(v) Provide its prime contract number, its DUNS number, and the e-mail address of the offeror's official responsible for acknowledging receipt of or rejecting the ISRs, to all first-tier subcontractors with subcontracting plans so they can enter this information into the eSRS when submitting their ISRs; and

(vi) Require that each subcontractor with a subcontracting plan provide the prime contract number, its own DUNS number, and the e-mail address of the subcontractor's official responsible for acknowledging receipt of or rejecting the ISRs, to its subcontractors with subcontracting plans.

(11) A description of the types of records that will be maintained concerning procedures that have been adopted to comply with the requirements and goals in the plan, including establishing source lists; and a description of the offeror's efforts to locate small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns and award subcontracts to them. The records shall include at least the following (on a plant-wide or company-wide basis, unless otherwise indicated):

(i) Source lists (e.g., SAM), guides, and other data that identify small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns.

(ii) Organizations contacted in an attempt to locate sources that are small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, or women-owned small business concerns.

(iii) Records on each subcontract solicitation resulting in an award of more than $150,000, indicating --

(A) Whether small business concerns were solicited and if not, why not;

(B) Whether veteran-owned small business concerns were solicited and, if not, why not;

(C) Whether service-disabled veteran-owned small business concerns were solicited and, if not, why not;

(D) Whether HUBZone small business concerns were solicited and, if not, why not;

(E) Whether small disadvantaged business concerns were solicited and if not, why not;

(F) Whether women-owned small business concerns were solicited and if not, why not; and

(G) If applicable, the reason award was not made to a small business concern.

(iv) Records of any outreach efforts to contact --

(A) Trade associations;

(B) Business development organizations;

(C) Conferences and trade fairs to locate small, HUBZone small, small disadvantaged, and women-owned small business sources; and

(D) Veterans service organizaions.

(v) Records of internal guidance and encouragement provided to buyers through --

(A) Workshops, seminars, training, etc., and

(B) Monitoring performance to evaluate compliance with the program's requirements.

(vi) On a contract-by-contract basis, records to support award data submitted by the offeror to the Government, including the name, address, and business size of each subcontractor. Contractors having commercial plans need not comply with this requirement.

(e) In order to effectively implement this plan to the extent consistent with efficient contract performance, the Contractor shall perform the following functions:

(1) Assist small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns by arranging solicitations, time for the preparation of bids, quantities, specifications, and delivery schedules so as to facilitate the participation by such concerns. Where the Contractor's lists of potential small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business subcontractors are excessively long, reasonable effort shall be made to give all such small business concerns an opportunity to compete over a period of time.

(2) Provide adequate and timely consideration of the potentialities of small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns in all "make-or-buy" decisions.

(3) Counsel and discuss subcontracting opportunities with representatives of small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business firms.

(4) Confirm that a subcontractor representing itself as a HUBZone small business concern is identified as a certified HUBZone small business concern by accessing the SAM database or by contacting SBA.

(5) Provide notice to subcontractors concerning penalties and remedies for misrepresentations of business status as small, veteran-owned small business, HUBZone small, small disadvantaged or women-owned small business for the purpose of obtaining a subcontract that is to be included as part or all of a goal contained in the Contractor's subcontracting plan.

(6) For all competitive subcontracts over the simplified acquisition threshold in which a small business concern received a small business preference, upon determination of the successful subcontract offeror, the Contractor must inform each unsuccessful small business subcontract offeror in writing of the name and location of the apparent successful offeror prior to award of the contract.

(f) A master plan on a plant or division-wide basis that contains all the elements required by paragraph (d) of this clause, except goals, may be incorporated by reference as a part of the subcontracting plan required of the offeror by this clause; provided --

(1) The master plan has been approved;

(2) The offeror ensures that the master plan is updated as necessary and provides copies of the approved master plan, including evidence of its approval, to the Contracting Officer; and

(3) Goals and any deviations from the master plan deemed necessary by the Contracting Officer to satisfy the requirements of this contract are set forth in the individual subcontracting plan.

(g) A commercial plan is the preferred type of subcontracting plan for contractors furnishing commercial items. The commercial plan shall relate to the offeror's planned subcontracting generally, for both commercial and Government business, rather than solely to the Government contract. Once the Contractor's commercial plan has been approved, the Government will not require another subcontracting plan from the same Contractor while the plan remains in effect, as long as the product or service being provided by the Contractor continues to meet the definition of a commercial item. A Contractor with a commercial plan shall comply with the reporting requirements stated in paragraph (d)(10) of this clause by submitting one SSR in eSRS for all contracts covered by its commercial plan. This report shall be acknowledged or rejected in eSRS by the Contracting Officer who approved the plan. This report shall be submitted within 30 days after the end of the Government's fiscal year.

(h) Prior compliance of the offeror with other such subcontracting plans under previous contracts will be considered by the Contracting Officer in determining the responsibility of the offeror for award of the contract.

(i) A contract may have no more than one plan. When a modification meets the criteria in 19.702 for a plan, or an option is exercised, the goals associated with the modification or option shall be added to those in the existing subcontract plan.

(j) Subcontracting plans are not required from subcontractors when the prime contract contains the clause at 52.212-5, Contract Terms and Conditions Required to Implement Statutes or Executive Orders--Commercial Items, or when the subcontractor provides a commercial item subject to the clause at 52.244-6, Subcontracts for Commercial Items, under a prime contract.

(k) The failure of the Contractor or subcontractor to comply in good faith with --

(1) The clause of this contract entitled "Utilization Of Small Business Concerns;" or

(2) An approved plan required by this clause, shall be a material breach of the contract.

(l) The Contractor shall submit ISRs and SSRs using the web-based eSRS at http://www.esrs.gov. Purchases from a corporation, company, or subdivision that is an affiliate of the prime Contractor or subcontractor are not included in these reports. Subcontract award data reported by prime Contractors and subcontractors shall be limited to awards made to their immediate next-tier subcontractors. Credit cannot be taken for awards made to lower tier subcontractors, unless the Contractor or subcontractor has been designated to receive a small business or small disadvantaged business credit from an ANC or Indian tribe. Only subcontracts involving performance in the United States or its outlying areas should be included in these reports with the exception of subcontracts under a contract awarded by the State Department or any other agency that has statutory or regulatory authority to require subcontracting plans for subcontracts performed outside the United States and its outlying areas.

(1) ISR. This report is not required for commercial plans. The report is required for each contract containing an individual subcontract plan.

(i) The report shall be submitted semi-annually during contract performance for the periods ending March 31 and September 30. A report is also required for each contract within 30 days of contract completion. Reports are due 30 days after the close of each reporting period, unless otherwise directed by the Contracting Officer. Reports are required when due, regardless of whether there has been any subcontracting activity since the inception of the contract or the previous reporting period.

(ii) When a subcontracting plan contains separate goals for the basic contract and each option, as prescribed by FAR 19.704(c), the dollar goal inserted on this report shall be the

sum of the base period through the current option; for example, for a report submitted after the second option is exercised, the dollar goal would be the sum of the goals for the basic contract, the first option, and the second option.

(iii) The authority to acknowledge receipt or reject the ISR resides--

(A) In the case of the prime Contractor, with the Contracting Officer; and

(B) In the case of a subcontract with a subcontracting plan, with the entity that awarded the subcontract.

(2) SSR.

(i) Reports submitted under individual contract plans--

(A) This report encompasses all subcontracting under prime contracts and subcontracts with the awarding agency, regardless of the dollar value of the subcontracts.

(B) The report may be submitted on a corporate, company or subdivision (e.g. plant or division operating as a separate profit center) basis, unless otherwise directed by the agency.

(C) If a prime Contractor and/or subcontractor is performing work for more than one executive agency, a separate report shall be submitted to each executive agency covering only that agency's contracts, provided at least one of that agency's contracts is over $650,000 (over $1.5 million for construction of a public facility) and contains a subcontracting plan. For DoD, a consolidated report shall be submitted for all contracts awarded by military departments/agencies and/or subcontracts awarded by DoD prime Contractors. However, for construction and related maintenance and repair, a separate report shall be submitted for each DoD component.

(D) For DoD and NASA, the report shall be submitted semi-annually for the six months ending March 31 and the twelve months ending September 30. For civilian agencies, except NASA, it shall be submitted annually for the twelve month period ending September 30. Reports are due 30 days after the close of each reporting period.

(E) Subcontract awards that are related to work for more than one executive agency shall be appropriately allocated.

(F) The authority to acknowledge or reject SSRs in eSRS, including SSRs submitted by subcontractors with subcontracting plans, resides with the Government agency awarding the prime contracts unless stated otherwise in the contract.

(ii) Reports submitted under a commercial plan--

(A) The report shall include all subcontract awards under the commercial plan in effect during the Government's fiscal year.

(B) The report shall be submitted annually, within thirty days after the end of the Government's fiscal year.

(C) If a Contractor has a commercial plan and is performing work for more than one executive agency, the Contractor shall specify the percentage of dollars attributable to each agency from which contracts for commercial items were received.

(D) The authority to acknowledge or reject SSRs for commercial plans resides with the Contracting Officer who approved the commercial plan.

(iii) All reports submitted at the close of each fiscal year (both individual and commercial plans) shall include a Year-End Supplementary Report for Small Disadvantaged Businesses. The report shall include subcontract awards, in whole dollars, to small disadvantaged business concerns by North American Industry Classification System (NAICS) Industry Subsector. If the data are not available when the year-end SSR is submitted, the prime Contractor and/or subcontractor shall submit the Year-End Supplementary Report for Small Disadvantaged Businesses within 90 days of submitting the year-end SSR. For a commercial plan, the Contractor may obtain from each of its subcontractors a predominant NAICS Industry Subsector and report all awards to that subcontractor under its predominant NAICS Industry Subsector.

52.244-2 SUBCONTRACTS (OCT 2010)
(a) Definitions. As used in this clause--

Approved purchasing system means a Contractor's purchasing system that has been reviewed and approved in accordance with Part 44 of the Federal Acquisition Regulation (FAR).

Consent to subcontract means the Contracting Officer's written consent for the Contractor to enter into a particular subcontract.

Subcontract means any contract, as defined in FAR Subpart 2.1, entered into by a subcontractor to furnish supplies or services for performance of the prime contract or a subcontract. It includes, but is not limited to, purchase orders, and changes and modifications to purchase orders.

(b) When this clause is included in a fixed-price type contract, consent to subcontract is required only on unpriced contract actions (including unpriced modifications or unpriced delivery orders), and only if required in accordance with paragraph (c) or (d) of this clause.

(c) If the Contractor does not have an approved purchasing system, consent to subcontract is required for any subcontract that—

(1) Is of the cost-reimbursement, time-and-materials, or labor-hour type; or

(2) Is fixed-price and exceeds—

(i) For a contract awarded by the Department of Defense, the Coast Guard, or the National Aeronautics and Space Administration, the greater of the simplified acquisition threshold or 5 percent of the total estimated cost of the contract; or

(ii) For a contract awarded by a civilian agency other than the Coast Guard and the National Aeronautics and Space Administration, either the simplified acquisition threshold or 5 percent of the total estimated cost of the contract.

(d) If the Contractor has an approved purchasing system, the Contractor nevertheless shall obtain the Contracting Officer's written consent before placing the following subcontracts:

Subcontracts or Consultants (for Consultants see DTRA 252 216-9003 in Section H)

(e)(1) The Contractor shall notify the Contracting Officer reasonably in advance of placing any subcontract or modification thereof for which consent is required under paragraph (b), (c), or (d) of this clause, including the following information:

(i) A description of the supplies or services to be subcontracted.

(ii) Identification of the type of subcontract to be used.

(iii) Identification of the proposed subcontractor.

(iv) The proposed subcontract price.

(v) The subcontractor's current, complete, and accurate certified cost or pricing data and Certificate of Current Cost or Pricing Data, if required by other contract provisions.

(vi) The subcontractor's Disclosure Statement or Certificate relating to Cost Accounting Standards when such data are required by other provisions of this contract.

(vii) A negotiation memorandum reflecting—

(A) The principal elements of the subcontract price negotiations;

(B) The most significant considerations controlling establishment of initial or revised prices;

(C) The reason certified cost or pricing data were or were not required;

(D) The extent, if any, to which the Contractor did not rely on the subcontractor's certified cost or pricing data in determining
the price objective and in negotiating the final price;

(E) The extent to which it was recognized in the negotiation that the subcontractor's certified cost or pricing data were not accurate, complete, or current; the action taken by the Contractor and the subcontractor; and the effect of any such defective data on the total price negotiated;

(F) The reasons for any significant difference between the Contractor's price objective and the price negotiated; and

(G) A complete explanation of the incentive fee or profit plan when incentives are used. The explanation shall identify each critical performance element, management decisions used to quantify each incentive element, reasons for the incentives, and a summary of all trade-off possibilities considered.

(2) The Contractor is not required to notify the Contracting Officer in advance of entering into any subcontract for which consent is not required under paragraph (c), (d), or (e) of this clause.

(f) Unless the consent or approval specifically provides otherwise, neither consent by the Contracting Officer to any subcontract nor approval of the Contractor's purchasing system shall constitute a determination—

(1) Of the acceptability of any subcontract terms or conditions;

(2) Of the allowability of any cost under this contract; or

(3) To relieve the Contractor of any responsibility for performing this contract.

(g) No subcontract or modification thereof placed under this contract shall provide for payment on a cost-plus-a-percentage-of-cost basis, and any fee payable under cost-reimbursement type subcontracts shall not exceed the fee limitations in FAR 15.404-4(c)(4)(i).

(h) The Contractor shall give the Contracting Officer immediate written notice of any action or suit filed and prompt notice of any claim made against the Contractor by any subcontractor or vendor that, in the opinion of the Contractor, may result in litigation related in any way to this contract, with respect to which the Contractor may be entitled to reimbursement from the Government.

(i) The Government reserves the right to review the Contractor's purchasing system as set forth in FAR Subpart 44.3.

(j) Paragraphs (c) and (e) of this clause do not apply to the following subcontracts, which were evaluated during negotiations:

(End of clause)

252.203-9005, Implementation of Contractor Code of Business Ethics and Conduct (Dec 2008)

In accordance with FAR clause 52.203-13, Contractor Code of Business Ethics and Conduct, the designated "agency Office of the Inspector General" is the DoD OIG at the following address:

Office of the Inspector General
United States Department of Defense
Investigative Policy and Oversight
Contractor Disclosure Program
400 Army Navy Drive, Suite 1037
Arlington, VA 22202-4704
Toll Free Telephone: 866-429-8011

252.204-9001 UNIVERSITIES DISCLOSURE OF INFORMATION (JUL 2009)

(a) The Contractor shall not release to anyone outside the Contractor's organization any unclassified information, regardless of medium (e.g. film, tape, document) pertaining to any part of this contract or any program related to this contract, unless the information results from fundamental research, as defined below:

> "Fundamental research" as used in this clause, means basic and applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community, as distinguished from proprietary research and from industrial development, design, production, and product utilization, the results of which ordinarily are restricted for proprietary or national security reasons.

(b) The Contractor shall confer and consult with DTRA on technical aspects of its research and submit technical documents intended for publication to the cognizant DTRA technical representative(s) for review, a minimum of 45 days prior to publication or other dissemination. The purpose of the DTRA review period is to ensure the government ample opportunity to provide comments and suggestions for the researchers' consideration.

252.204-9004 IMPLEMENTATION OF DISCLOSURE OF INFORMATION (JUN 2007)

METABIOTA

In accordance with DFARS 252.204-7000 Disclosure of Information, any information to be released shall be submitted at least 45 days before the proposed release date, for security and policy review. Submit one copy to each below:

(a) Office of Public Affairs, DTRA/DIR/COS/PA, 8725 John J. Kingman Dr, MS 6201, Ft Belvoir VA 22060-6201.
(b) Contracting Officer
(c) Program Manager

CLAUSES INCORPORATED BY REFERENCE

METABIOTA

PRICE NEGOTIATION MEMORANDUM
METABIOTA, INC.

GENERAL INFORMATION:

Contractor name	Watermark Risk Management International, LLC
Proposal number	HDTRA1-14-C-0104

DESCRIPTION OF THE CONTRACT ACTION:

Description of the work (provide a brief summary of the general scope of the work encompassed by the action):
Watermark will collaborate with Metabiota to provide additional BS&S and bio-risk management expertise to the AEP team from 1 February 2016 – 15 November 2016. Watermark will provide remote and on-site grantsmanship mentoring, editorial guidance, implementation of mentoring work plans, and identification of future mentorship stakeholder needs.

This collaboration will build a long-term partnership between key research and technical centers in Georgia and will nourish hypothesis-driven and translational research programs that result in sustainable funding and academic publications.

NEGOTIATING PARTIES:

Identify the name position, organization and phone number/email of each person representing the contractor and the Government in the negotiation. Indicate the date(s) of the negotiation.

Contractor	Name	Position	Organization	Phone/Email
(b)(6)				
LLC			LLC	

METABIOTA

COST ANALYSIS:

The proposed subcontract is a sole source Time and Materials (T&M) contract evaluated upon completed technical and cost proposal from Watermark to provide subject matter expertise and support to overall operational activities in the Metabiota AEP contract that have a biosafety, biosecurity, or Biorisk management component. The T&M contract issued to Watermark was determined to be the most appropriate mechanism for these services based on the fair and reasonable pricing submitted by the subcontractor and the Metabiota team's determination that this would be the most effective means to ensure efficient performance in the best interest of the government.

This determination was made following an internal review of the subcontractor's hourly rates by labor category by Metabiota's financial, contract, and technical departments to determine overall reasonableness of the cost. The rates provided by the subcontractor were reasonable compared to those of other service providers with similar contract tasks and levels of experience and expertise. Additionally, the rate structure presented by Watermark is substantially comparable to and fits within Metabiota's own rate structure with the US government client.

Labor Category	Description	Rate
Research and Data Analyst	Provides research support on all tasks. Provide meeting support. Maintain documentation of all research activities. Conduct secondary research and document findings. Attend and document collaborative meetings.	$57.66
Subject Matter Expert 1	Possess unique credentials that provides expert advisor/contributions in complex and critical efforts. Must be skilled in providing unique, subject matter expertise in specific functional, technical, professional or policy areas. Responsibilities include: conducting sophisticated assessments of complex problems in areas of expertise; designing approaches to problems, analyzes and evaluating the work of others, and applying broad understanding of the state of the practice. Broadly recognized as authoritative, trusted sources of expertise within their community of practice.	$108.12
Subject Matter Expert 2	Possess unique credentials in an esoteric field that are not readily accessible either nationally or worldwide. Acts as an advisor and provides support to complex and critical efforts that require scarce and highly specific investigative or leadership capability. Requires the ability to understand underlying business, management, scientific, technical, programmatic, operational, and policy issues, and to provide expert analysis, assessment, and recommended courses of action for major programs/projects. Develop novel, multi-disciplinary approaches to complex and difficult problems and may analyze and evaluate the work of others, applying broad understanding of the state of the practice.	$121.09

METABIOTA

June 20, 2016

(b)(6) Contracting Officer
Defense Threat Reduction Agency (DTRA)/J4COC
8725 John J Kingman Rd. MSC 6201
Fort Belvoir, VA 22060

Sent via email to (b)(6)

Re: FAR 52.244-2 SUBCONTRACTS – Consent to Subcontract with University Research Co.
Academic Engagement Partnership (AEP), Cooperative Threat Reduction (CTR)
Contract No. HDTRA1-14-C-0104

Dear (b)(6)

Per FAR 52.244-2 Subcontracts, Metabiota, Inc. (Metabiota) requests Consent to Subcontract with University Research Co., LLC. to support the Iraq Field Epidemiology Training Program Support as defined in the TD-21 issued on 18 February 2016. Included with today's request are the following items:

- Draft Subcontract Agreement
- Competing proposals that were considered for this project
- Price Negotiation Memorandum (PNM)

We will provide a comprehensive subcontractor budget once finalized.

Description of services to be subcontracted.

- Three (3) Foreign Local National Trainers, located in Iraq, to facilitate remote online training courses, deliver a one-week Hands-On-Training course to participants, and provide subject matter expertise;
- One (1) Training & Procurement Coordinator, located in Iraq, to support in-country operations for the FLN training team, including on-the-ground coordination of event planning and execution, general assistance to the FLN Trainers, and management of locally procured materials for the Hands-On-Training activities, if deemed necessary;
- One (1) Operations Manager, based in US headquarters, to provide overhead management, assist FLN trainers in day-to-day activities, support Training & Procurement Coordinator with procurement guidance, ensure contract compliance, and manage overall operational tasks on behalf of the subcontractor;
- Complete any additional reporting requirements, as necessary, and requested by DTRA.

Type of subcontract to be used. *Time and Materials*
Proposed Subcontractor. University Research Co., LLC.
Proposed subcontract price. A preliminary estimation total of $62,184 USD

If you have questions or need additional information, I may be reached at (b)(6) (b)(6)

Sincerely,

(b)(6)
Sr. Contracts Manager

METABIOTA

DRAFT
SUBCONTRACT

Between

METABIOTA, INC.
425 CALIFORNIA STREET, SUITE 200
SAN FRANCISCO, CA 94104

and

University Research Co. LLC
7200 Wisconsin Ave. Suite 600
Bethesda MD 20005

CONTRACT SUMMARY

Metabiota, Inc. Contract No.:	2016-13-DTRA
Performance Period:	June 15, 2016 to November 15, 2016
Contract Type:	Time & Materials (T&M)
Contract Value:	$62,184.00
Project Title:	University Research Co., LLC (URC)
Metabiota, Inc. Project Manager:	(b)(6)

METABIOTA

AGREEMENT

This Subcontract ("Subcontract") is dated and effective as of June 15, 2016, (between **Metabiota, Inc.** (herein referred to as "Metabiota" or "Prime Contractor"), a California corporation, located at 425 California Street, Suite 200, San Francisco, CA, 94104 and **University Research Co. LLC (URC)** located at 7501 Wisconsin Ave, 12th Floor, Bethesda, MD 20814 (herein referred to as "URC" or "Subcontractor"). Metabiota and the Subcontractor are each a "Party" and together are the "Parties".

WHEREAS, the Prime Contractor was awarded Contract No. HDTRA1-14-C-0104 for the Academic Engagement Program (AEP) by the Defense Threat Reduction Agency (DTRA); and,

WHEREAS, the Prime Contractor desires to purchase certain services from the Subcontractor for the Client; and,

WHEREAS, the Subcontractor is willing to provide services to the Prime Contractor in accordance with the terms and conditions set forth in this Subcontract.

NOW, THEREFORE, the parties hereby agree as follows:

Article 1. Subcontract Services

1.1 Statement of Work. The Subcontractor shall provide all necessary and qualified personnel, equipment, material and facilities to perform the services (hereinafter, the "Work") as set forth in Attachment A—Scope of Work, which shall include the production of the deliverables ("Deliverables"), attached hereto and incorporated herein by this reference.

1.2 Reporting. The Subcontractor shall submit reports in accordance with the deliverables as described in Attachment A, and as referenced in Section 2.3.

The Prime Contractor may request additional information regarding the Subcontractor reports, for which the Subcontractor shall use reasonable best efforts to promptly address. The Prime Contractor will not consider award renewals for Subcontractors who fail to meet reporting requirements on a timely basis.

Article 2. Price, Contract Type, and Payment

2.1 Price and Contract Type. This Subcontract is a Time & Materials Contract Type. The ceiling price of $62,184.00 is fully funded.

2.2 Labor Rate Table. Subcontractor shall bill hourly, based on the labor rates and qualifications listed in the table below. Subcontractor shall provide back-up documentation detailing hours worked by position level, according to the Labor Categories and Rate Table below and Attachment B.

Position	Labor Description	Labor Category	Total Units	Rate	Total Costs
Foreign Local Trainer 1	Terminal degree (e.g., MD/DO, DVM, PhD, Doctorate, Master's) or minimum 10 years experience in a relevant technical field such as veterinary medicine; human medicine; epidemiology; public health; microbiology; molecular biology; laboratory biological safety and security.	FLN III	400 Hours	$48.20	$19,280
Foreign Local Trainer 2	Terminal degree or 5-7 years experience in a relevant technical field such as veterinary medicine; human medicine; epidemiology; public health;	FLN III	800 Hours	$40.16	$32,128

	microbiology; molecular biology; laboratory biological safety and security.				
Foreign Local Trainer Coordinator	Terminal degree or 3-5 years experience in a relevant technical field such as veterinary medicine; human medicine; epidemiology; public health; microbiology; molecular biology; laboratory biological safety and security.	FLN III	100 Hours	$37.50	$3,750
Program Operations Manager	US-based with terminal degree and 3-5 years relevant experience in a specific and scarcely populated field.	SME I	50 Hours	$97.68	$4,884
	Sub-Total				$60,042
	MATERIALS				
Telephone/ Fax/ Internet		6 Months		$125	$750
Office Supplies		6 Months		$75	$450
Printing/ Reproduction		6 Months		$100	$600
	Sub-Total				$1,800
	G&A on Materials (19.00%)				$342
	ODC				$0.00
	TRAVEL				$0.00
	TOTAL CONTRACT PRICE				$62,184

*Metabiota will directly cover airfare, lodging, and logistics expenses, should they be required *

2.3 Travel Costs. As per Article 11, As per Article 11, Prime Contractor shall coordinate travel and incur any travel costs.

If the Prime Contractor is unable to coordinate Subcontractor travel, the following guidelines shall be applied: Subcontractor shall submit Requests for Travel to Prime Contractor in writing at least 60 days prior to international travel and 30 days prior to domestic travel. Requests must include a detailed itinerary for Prime Contractor approval. Travel Costs must be approved in writing before any costs are incurred and would be invoiced separately, with supporting documentation (receipts). Detailed expense reports including itemized receipts must be submitted for reimbursement. No travel cost will be reimbursed without valid receipt. Travel includes airfare, ground transportation, accommodations, and Meals and Incidental Expenses (M&IE). Per diem rates shall be in accordance with Part 301-11 of U.S. Government Federal Travel Regulation (FTR), as per Article 2.2.2 and Federal Acquisition Regulation (FAR) 31.205.46. As per FAR 252.216-9005, there is no fee (profit) on travel costs permitted.

2.4 Invoicing. The Subcontractor shall submit one invoice after completion of all work under this agreement, no later than 30 days following completion of work to invoices@metabiota.com. The invoice shall contain the following information as shown in Attachment C:

- Reference the subcontract number 2016-13-DTRA
- Unique invoice number
- Invoice date
- Period of Performance
- Total invoice amount
- Cumulative invoice amount
- Name and address of Subcontractor (mailing address if different)
- Subcontract value and funding (in US Dollars)
- Signed by an authorized official of the Subcontractor

- A certification that reads substantially as follows: **"The undersigned hereby certifies that the amount being invoiced represents only those amounts properly payable in accordance with the terms and conditions of the Subcontract Agreement and the official financial records"**
- Invoices may be submitted via email to the following addresses listed below: **invoices@metabiota.com.**

2.5 Payment. Prime Contractor shall remit payments to the Subcontractor within 30 days of receipt of a valid invoice. Payments shall be made in US Dollars via ACH or Wire to:

Bank Name:	Capital One Bank
Bank Address:	7501 Wisconsin Avenue, 12th Floor, Bethesda, MD 20814, USA
Account Holder:	University Research Co., LLC
Account No:	500-434084-6
ABA Routing No:	255071981
IBAN/ Swift Code:	HIBKUS44

Article 3. Nature of the Relationship

The Subcontractor and Prime Contractor acknowledge that although the Subcontractor may perform services pursuant to Prime Contractor's general instructions, the Subcontractor in all matters is and shall be deemed to be an independent contractor and the employees or agents of the Subcontractor shall not be or be deemed to be employees or agents of Prime Contractor for any purpose.

The Subcontractor is responsible and liable for the payment of all local sales, use, gross receipts, ad valorem, property, excise or other taxes that may be applicable to this Agreement.

This Agreement does not require either party to enter into further contractual or other relationships with the other. This Agreement does not create a partnership, joint venture, agency, or other business relationship.

Article 4. Period of Performance

4.1 Period of Performance. The period of performance under this Subcontract shall be from June 15, 2016 – November 15, 2016.

4.2 This Subcontract may be terminated for convenience by either party by providing written notice to the other party thirty (30) calendar days in advance of a specified date of termination.

4.3 This Subcontract may be terminated by Prime Contractor upon written notice in the event of substantial failure by the Subcontractor to perform in accordance with the terms of this Agreement. In the event that the Subcontractor shall default in the performance of any obligation to be performed by it under this Agreement and shall fail to correct such default within ten (10) calendar days following written notice thereof from Prime Contractor. The Prime Contractor may hold in abeyance further payments to the Subcontractor and/or terminate this Agreement by written notice to the Subcontractor specifying the date of termination. Following a termination for default of this Agreement, Subcontractor shall be compensated for all completed Services to the extent that Prime Contractor is reimbursed by the Client for the Subcontractor's services.

4.4 Performance by the Subcontractor may be terminated by Prime Contractor at any time by written notice to the Subcontractor in the event that Prime Contractor's funding is terminated.

4.5 In the event of termination, Prime Contractor will reimburse the Subcontractor for allowable Subcontract Costs up to and including non-cancelable obligations properly incurred prior to the date of termination, provided such costs are allowable do not exceed the stated maximum amount payable.

Article 5. Confidentiality

In order to facilitate the Subcontract Services, Prime Contractor may disclose to the Subcontractor information that it considers confidential or proprietary ("Confidential Information"). Confidential or proprietary information is defined as any information disclosed by one Party (the "Disclosing Party") to the other Party (the "Receiving Party") in a written or tangible shall be marked as "Confidential" or "Proprietary", or if disclosed orally or visually, identified as confidential and/or proprietary at the time of disclosure (which is reduced to writing and so marked within a reasonable time, not to exceed sixty (60) days, thereafter). The Subcontractor will hold in confidence any Confidential Information disclosed by Prime Contractor, and will not use Confidential Information for any purpose except in furtherance of the Subcontract Services. The Subcontractor will take reasonable and prudent precautions to protect the Confidential Information disclosed by Prime Contractor pursuant to this Subcontract. This obligation of confidentiality shall not, however, apply to information which: (i) was known to the Subcontractor and was not proprietary to Prime Contractor prior to the time of disclosure, as demonstrated by competent written evidence; (ii) was part of the public domain prior to the time of disclosure; (iii) becomes part of the public domain after the time of disclosure other than through any act or omission of the Subcontractor in breach of this Subcontract; (iv) is independently developed by the Subcontractor or those employees, contractors, and other researchers directly engaged by the Subcontractor without access to, use of, or regard to the Confidential Information disclosed to it by Prime Contractor. The above confidentiality and non-use obligations shall expire five (5) years following the conclusion of the Subcontract Services hereunder.

Article 6. Data, Publications and Copyrights

6.1 Subcontractor's researchers are free to publish the results of research supported thereunder, however, Subcontractor's Principal Investigator shall supply a copy of any such publication(s) or reports to Prime Contractor's Program Manager sixty (60) days prior to release.

b. Subject to its legal ability to do so, Subcontractor hereby grants Prime Contractor license to use data created in the performance of this Agreement to the extent required to meet Prime Contractor's obligations under the Prime Agreement.

d. Subject to its legal ability to do so, Subcontractor hereby grants to Prime Contractor an irrevocable, royalty-free, non-transferable, non-exclusive right and license to reproduce, make derivative works, display, and perform publicly any copyrightable or copyrighted material (including any computer software and its documentation and/ or database) developed and delivered under this Agreement to the extent required to meet Prime Contractor's obligations under the Prime Agreement.

e. Use of Name. Except as otherwise required by applicable law, regulation or order of a governmental agency or court of competent jurisdiction, Farlow shall not use the name of METABIOTA or METABIOTA's directors, officers, employees or representatives in any advertising, news release or other publication, without the prior express written consent from METABIOTA.

Article 7. Authorship and Specimen Ownership

7.1 Publication and Specimen Collections. Authorship on all resulting publications (reports, articles, books, etc.) produced under this Subcontract shall include people from both field and laboratory groups represented by Prime Contractor and Subcontractor only insofar as they contributed to the publication in a substantive way. Prior to initiation of writing any publications, the responsibilities for authorship for any given publication will be agreed upon by consensus of all parties. However, if a consensus by all parties is not reached within a reasonable period of time Subcontractor's Principal Investigator shall be free to publish independently and agrees to acknowledge Prime Contractor and/or give acknowledgment to Prime Contractor's scientists in publications or presentations, as scientifically appropriate. The Subcontractor's Principal Investigator and Subcontractor shall include Prime Contractor's scientists as co-authors on such publications, insofar as they provide any direct contributions to the work. All reports, articles, or books produced under this Subcontract shall conform to Attachment D – Mandatory Flow Down. Nothing in this contract limits the right of Subcontractor to produce derivative work products with the materials or data produced in the execution of this contract with the exception of the terms in this Agreement that require

Prime Contractor's consent to use of name. The derivative work performed by the Subcontractor shall be at the risk of the Subcontractor exclusively.

7.2 Specimen Ownership. Inasmuch as applicable, for all resulting specimens collected under Subcontract, Prime Contractor, to the extent required to meet Prime Contractor's obligations under the Prime Agreement, shall retain an unlimited license to use, disclose, reproduce, and prepare derivative works, in any manner and or any purpose, and to have or permit others to do so.

Article 8. Miscellaneous Terms

8.1 Assignment. Subcontractor shall not assign, transfer or Subcontract its rights, interest, or obligations hereunder without the prior written consent of Prime Contractor and modification to this Subcontract.

8.2 Modifications. The terms and conditions of this Subcontract may be changed by mutual agreement of the parties. In the event that the Government modifies the terms and/or conditions of the Prime Agreement, Prime Contractor reserves the right to unilaterally modify the terms and/or conditions of this Subcontract to reflect the Government's modifications and, thereafter, to negotiate an adjustment, to the extent any such unilateral modification increases the Subcontractor's cost of performance, which modification shall be mutually agreed upon by Prime Contractor and the Subcontractor.

8.3 No Waivers. The failure of Prime Contractor to exercise any of its rights under this Subcontract shall not be deemed to be a waiver of such rights.

8.4 Force Majeure. Neither party shall be held liable or responsible to the other party nor be deemed to have defaulted under or breached this Agreement for failure or delay in fulfilling or performing any obligation under this Agreement the extent, and for so long as, such failure or delay is caused by or results from causes beyond the reasonable control of the affected party including but not limited to fires, earthquakes, floods, embargoes, wars, acts of war (whether war is declared or not), insurrections, riots, civil disturbances, strikes, lockouts or other labor disturbances, acts of God or any acts, omissions, or delays in acting by any governmental authority or the other party.

8.5 Export Control. Both parties will comply with any applicable export regulations, including the Export Administration Regulation and the International Traffic in Arms Regulation, in the conduct of the project. Neither party will transmit to the other any technical data, commodity, or technical assistance controlled under the export regulations without first securing the consent of the receiving party and modification of this agreement signed by the authorized official for each party.

8.6 Entire Subcontract. This Subcontract and its Attachments supersedes any prior or contemporaneous oral or written understandings or communications between the parties and constitutes the entire Subcontract of the parties with respect to its subject matter. This Subcontract may not be amended or modified, except in a writing signed by both parties.

8.7 Governing Law. This Subcontract shall be governed by the laws of the State of California.

8.8 No Liability. To the maximum extent permitted by applicable law, in no event shall Prime Contractor and Subcontractor be liable to the other party under any theory including contract and tort (both negligence and strict products liability) for any special, incidental, indirect, or consequential damages whatsoever (including, without limitation, damages for loss of business profit, business interruption, loss of business information, loss of goodwill) arising out of or relating to the Project. In addition, Prime Contractor and Subcontractor shall not be liable for losses, damages, claims, or other liabilities arising out of the other party's activities. It is expressly understood that Prime Contractor, by entering into this Subcontract, has no obligation to provide other or additional support to the Subcontractor for the purposes of this project or any other purposes.

8.9 Indemnification. The parties agree to defend, indemnify and hold one another, their officers, employees and agents harmless from and against any and all liability, loss, expense, attorneys' fees, or claims for injury or damages directly resulting from the performance of this Agreement but only in proportion to and to the extent such liability, loss, expense, attorneys' fees, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of the indemnifying party.

8.10 Severability. The illegality or invalidity of any provisions of this Subcontract shall not impair, affect or invalidate the other provisions of this Subcontract.

8.11 Protection of Research Subjects. If human or animal subjects are used in the conduct of the work performed under this Subcontract, the Subcontractor's protocol must be approved by the Subcontractor's office for the protection of research subjects in accordance with federal regulations, including 45 C.F.R. Part 46, the Office for Human Research Protections (OHRP), 9 C.F.R. Subchapter A under the Animal Welfare Act, and submitted to Prime Contractor.

8.12 Defense Base Act Insurance. Subcontractor shall be required to obtain Defense Base Act Insurance (DBA) in accordance with FAR clause 52.228-4 Workers Compensation and War Hazard Insurance Overseas. DBA insurance will be funded and provided for the Subcontractor by the Prime Contractor (Metabiota). Subcontractor shall provide all pertinent information to Prime Contractor in order to obtain adequate coverage.

8.13 Limits on URC Support for Certain Research Subject Areas. In keeping with the purpose of DTRA BAA Thrust Area 6, URC will support only the development of funding proposals that have a purely civilian focus; without outcomes that could substantively contribute to use in weapons of mass destruction or military applications; and that propose research of a quality and nature suitable for publication in academic journals.

Article 9. Attachments

This following Attachments to this Subcontract are incorporated by reference: Attachment A - Scope of Work and Deliverables, Attachment B – Labor Categories and Rates Table, Attachment C – T&M Invoice Template, and Attachment D – Mandatory Flow Down.

Article 10. Administrative and Technical Contacts

The following individuals shall serve as contacts for communications regarding this Subcontract:

Administrative

PRIME CONTRACTOR

(b)(6) Sr. Contracts Administrator
Metabiota, Inc.
1200 19th Street, Suite 210
Washington, DC 2003
(b)(6)

SUBCONTRACTOR

(b)(6)
University Research Co. LLC
1200 New York Ave NW
Washington DC 20005
Phone: (b)(6)

Technical

PRIME CONTRACTOR

(b)(6) Program Manager
Metabiota, Inc.
1200 19th Street, Suite 210
Washington, DC 20036
Phone: (b)(6)

SUBCONTRACTOR

(b)(6) Program Director
University Research Co. LLC
1200 New York Ave NW
Washington DC 2000
(b)(6)

METABIOTA

Email: emiller@metabiota.com Email: cdunlap@URC.org

Article 11. Travel

11.1 All travel shall be in compliance with the Prime Contract and/or Federal Travel Regulation (FTR) as specified in the Federal Acquisition Regulation (FAR) 31.205-46. There is no fee (profit) on travel costs permitted. Subcontractor shall comply with all Department of Defense Travel Requirements including Anti Terrorism Training (AT), Survival Evasion Resistance Escape Training (SERE) and Isolated Personnel Report (ISOPREP) Training.

11.2 Travel Costs and Logistics shall be provided by Prime Contractor.

In witness whereof, the parties hereto have executed this Subcontract as of the date last signed below.

Metabiota, Inc. **Subcontractor Name**

By: _____ By: _____

(b)(6) Contracts Manager (b)(6)

Date: _____ Date: _____

METABIOTA

Attachment A - Scope of Work and Deliverables

Order 01 – Scope of Work

Period of Performance: 15 June 2016 – 15 November 2016

Position/Labor Category/Title: Foreign Local Expert (FLN) support for Iraq Field Epidemiology and BS&S Training

Budget: $62,184.00

Position	Labor Description	Labor Category	Total Units	Rate	Total Costs
Foreign Local Trainer 1	Terminal degree (e.g., MD/DO, DVM, PhD, Doctorate, Master's) or minimum 10 years experience in a relevant technical field such as veterinary medicine; human medicine; epidemiology; public health; microbiology; molecular biology; laboratory biological safety and security.	FLN III	400 Hours	$48.20	$19,280
Foreign Local Trainer 2	Terminal degree or 5-7 years experience in a relevant technical field such as veterinary medicine; human medicine; epidemiology; public health; microbiology; molecular biology; laboratory biological safety and security.	FLN III	800 Hours	$40.16	$32,128
Foreign Local Trainer Coordinator	Terminal degree or 3-5 years experience in a relevant technical field such as veterinary medicine; human medicine; epidemiology; public health; microbiology; molecular biology; laboratory biological safety and security.	FLN III	100 Hours	$37.50	$3,750
Program Operations Manager	US-based with terminal degree and 3-5 years relevant experience in a specific and scarcely populated field.	SME I	50 Hours	$97.68	$4,884
	Sub-Total				$60,042
	MATERIALS				
Telephone/ Fax/ Internet		6 Months		$125	$750
Office Supplies		6 Months		$75	$450
Printing/ Reproduction		6 Months		$100	$600
	Sub-Total				$1,800
	G&A on Materials (19.00%)				$342
	ODC				$0.00
	TRAVEL				$0.00
	TOTAL CONTRACT PRICE				$62,184

*Metabiota will directly cover airfare, lodging, and logistics expenses, should they be required *

METABIOTA

Project Summary:
Through the CBEP AEP program, this activity will support the enhancement of existing Iraqi capacity for the conduction of field epidemiology, standardization and implementation of biosafety and biosecurity practices. The project will be conducted via remote/online mentorship and training, as well as a single hands-on engagement. At the direction of Metabiota, URC will provide US-based and foreign local national (FLN) support to Metabiota related to epidemiology, biosafety & biosecurity, and general risk management principles for the Iraq Field Epidemiology Training Program Support Course project. FLNs will support, facilitate and coordinate three separate 6-week remote/ online training programs, one 1-week NBERP Familiarization virtual workshop, and one 3-week gap analysis report. In addition, FLNs will facilitate, coordinate and deliver a one 1-week hands-on training course. The US-based Operations Manager will provide overhead management to FLN's, coordinate communication between FLN's and Metabiota, support day-to-day activities, ensure compliance, and manage overall operational tasks.

Schedule/Timeline: This activity will take place June 15th 2016 – November 15th 2016. Each monthly progress report will be completed the last day of each month.

Phase	**Q2 2016**			**Q3 2016**			**Q4 2016**		
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Phase 1: Learning Management System Familiarization									
Phase 2: Support Remote Delivery of Epidemiology Course #1									
Phase 3: Support Remote Delivery of Epidemiology Course #2 and simulateous Biosafety & Bio-security Course #1									
Phase 4: Deliver Hands-on-Training									
Phase 5: Support Delivery of NBERP Familiarization Workshop									
Phase 6: Support Delivery of Remote Gap Analysis									

Time Line and LOE estimates:

Dates	**Phase**	**Estimated LOE**
June 15 – October 31	General Project Coordination	800-950 hours
June 15 – Sept 30	LMS Implementation	100- 150 hours
October 2 – 6	Hands-On Course Delivery	100 hours
October 9 – 13	NBERP Familiarization Workshop	100 hours
October 16 – November 3	Gap Analysis	100-200 hours

METABIOTA

Task 1: Administrative Coordination:

1. Communication: The FLN(s) and SME will participate in conference calls and email communications with the Prime Contractor Program Manager (PM), Project Coordinator (PC), in-country stakeholders, and remote instructors as needed. When requested, FLN(s) will provide inputs to minutes and action item lists resulting from said communications.
2. Preparation: The FLNs will assist the Prime Contractor PM and PC to develop and complete all contingent deliverables prior to and following training events. Such deliverables include, but are not limited to: Training Trip Report, After Action Report, Post Training Assessment (due 5 days' post-event), and Pre and Post Tests. FLN(s) will coordinate with Prime Contractor PM, PC, and in-country stakeholders as needed, including but not limited to assisting in the facilitation of the appropriate ministerial approvals prior to event implementation.
3. Reports and Invoices: The FLN(s) will provide monthly invoices and reports detailing the actions taken and support provided.

Task 2: Information Technology, Epidemiology, and/ or Biosafety/ Biosecurity/ Biorisk management/ General risk management subject matter expertise:

1. Information Technology: URC FLN's will partake in learning management system (LMS) training program. With support from Prime Contractor PC, FLN(s) will assist participants in troubleshooting, using, and downloading training materials from the online LMS.
2. Training Implementation: URC FLNs will support the training program through multiple methods listed below. FLN(s) will be available between sessions to answer questions via telephone and email communications from participants. FLN(s) will also provide overall course feedback and observations of student participation and engagement to Metabiota.
    a. During the three 6-week remote/ online mentorship and in-depth training programs, URC FLNs will support the virtual instructors and facilitate the training as-needed, including but not limited to explaining technical epidemiology and biosafety and biosecurity terms and concepts, occasional translation of technical terminology between English and Arabic, and general coordination of training events. Each week of the remote program may include up to 2 lecture sessions to be agreed upon in coordination with Prime Contractor Management Team.
    b. URC FLN(s) may execute and deliver training activities during the 1-week hands-on training course, which will emphasize the key points of the remote epidemiology and BS&S trainings and include practical exercises such as PPE donning and doffing.
    c. ***Optional, to be executed at discretion of Metabiota*:** URC FLN(s) will assist in the coordination of local participants during their familiarization with the National Biological Emergency Response Plan draft. URC FLN(s) will also support the Metabiota team in the virtual gap analysis.
3. Monitoring and Evaluation: Throughout the training program, FLN(s) may provide feedback to participants on their performance. FLN(s) will monitor participants during the training process, facilitate working groups, and keep courses on task and on schedule. FLN(s) will also assist in the development, delivery and collection of pre- and post-tests prior to and immediately following each training cohort.

4. ***Optional, to be executed at discretion of Metabiota*:** URC to support in-country procurement, to include coordination with local vendors, procurement of training materials and supplies, coordination of receipt and transfer of supplies to training event venue.

Project Deliverables:

Deliverable	Task	Description	Delivery Date
1. General written notes	1.1	Notes, minutes, and action items from calls, meetings, or other communications.	48 hours after request
2. Administrative requirements	1.2	Assist in the development, identification and coordination of administrative requirements with the Prime Contractor PM and PC.	No later than 60 days prior to event
3. Monthly Progress Reports	1.3	Submit monthly progress reports to Prime Contractor PM and PC relaying activities conducted and status of efforts, accomplishments, metrics, risks or barriers to task completion or overall project implementation.	Monthly (Due the last day of each month)
4. Timesheets and Invoicing	1.3	Submit one invoice per month for labor incurred. Include labor hours per individual and labor category, and receipts for any materials procured.	Monthly (Due the last day of each month)
5. Labor Projections	1.3	Submit monthly labor projections for all personnel working on the project	Due the 20th day of the previous month
6. After Action, Training Trip report and Post-training Assessment	1.2, 2.2	Submit inputs to post-training reports, including the After Action Report, Training Trip Report, and Post-Training Assessment.	Due 5 days' post-event
7. Monitoring and evaluation	1.2, 2.3	Distribute and collect pre- and post-tests prior to and following each training cohort.	Due 5 days' post-event
8. Reports and Analyses	1.3, 2.2	Complete any additional reporting requirements, as necessary, and requested by the Funder, within the resources provided by the Subcontract.	As needed

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Attachment B – Labor Categories and Rate Table

Ceiling Price

The total ceiling price shall be **$ 62,184.00**.

Labor Rate Table

Position	Labor Description	Labor Category	Total Units	Rate	Total Costs
Foreign Local Trainer 1	Terminal degree (e.g., MD/DO, DVM, PhD, Doctorate, Master's) or minimum 10 years experience in a relevant technical field such as veterinary medicine; human medicine; epidemiology; public health; microbiology; molecular biology; laboratory biological safety and security.	FLN III	400 Hours	$48.20	$19,280
Foreign Local Trainer 2	Terminal degree or 5-7 years experience in a relevant technical field such as veterinary medicine; human medicine; epidemiology; public health; microbiology; molecular biology; laboratory biological safety and security.	FLN III	800 Hours	$40.16	$32,128
Foreign Local Trainer Coordinator	Terminal degree or 3-5 years experience in a relevant technical field such as veterinary medicine; human medicine; epidemiology; public health; microbiology; molecular biology; laboratory biological safety and security.	FLN III	100 Hours	$37.50	$3,750
Program Operations Manager	US-based with terminal degree and 3-5 years relevant experience in a specific and scarcely populated field.	SME I	50 Hours	$97.68	$4,884
	Sub-Total				$60,042
	MATERIALS				
Telephone/ Fax/ Internet		6 Months		$125	$750
Office Supplies		6 Months		$75	$450
Printing/ Reproduction		6 Months		$100	$600
	Sub-Total				$1,800
	G&A on Materials (19.00%)				$342
	ODC				$0.00
	TRAVEL				$0.00
	TOTAL CONTRACT PRICE				$62,184

*Metabiota will directly cover airfare, lodging, and logistics expenses, should they be required *

Currency Type

Payments shall be made in U.S. Dollars.

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Attachment C – T&M Invoice Template

Contract PoP:	**Invoice POP:**
Contract Name:	**Invoice #:**
Contract #:	**Remit Payment to:**
Bill To:	
Funded Total:	
Invoice Period of Performance:	

LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED
SME1					
SME2					
TOTAL LABOR		0.00	0.00	0.00	0.00

OTHER COSTS INVOICED	CURRENT INVOICE	CUMULATIVE INVOICE
MATERIALS		
OTHER DIRECT COSTS (including G&A)		
TRAVEL		
TOTAL NON LABOR INVOICED	$ -	$ -
TOTAL INVOICE (Labor plus Other Costs)	0	$ -

The undersigned hereby certifies that the amount being invoiced represents only those amounts properly payable in accordance with the terms and conditions of the contract/subcontract and the official financial records.

By: _____
(signature)

Payment should be remitted to: (Please provide details for ACH or Wire Transfer)

Prime Contractor Program Manager:

Approved: _____

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Attachment D – Mandatory Flow Down

Section I - Contract Clauses

CLAUSES INCORPORATED BY REFERENCE

52.202-1	Definitions	JAN 2012
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-6	Restrictions On Subcontractor Sales To The Government	SEP 2006
52.203-6	Restrictions On Subcontractor Sales To The Government	SEP 2006
52.203-7	Anti-Kickback Procedures	OCT 2010
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	JAN 1997
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	OCT 2010
52.203-13	Contractor Code of Business Ethics and Conduct	APR 2010
52.203-17	Contractor Employee Whistleblower Rights and Requirement To Inform Employees of Whistleblower Rights	SEP 2013
52.204-4	Printed or Copied Double-Sided on Postconsumer Fiber Content Paper	MAY 2011
52.204-6	Data Universal Numbering System Number	JUL 2013
52.204-10	Reporting Executive Compensation and First-Tier Subcontract Awards	JUL 2013
52.204-13	System for Award Management Maintenance	JUL 2013
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment	AUG 2013
52.209-10	Prohibition on Contracting With Inverted Domestic Corporations	MAY 2012
52.215-2	Audit and Records--Negotiation	OCT 2010
52.215-2 Alt II	Audit and Records--Negotiation (Oct 2010) - Alternate II	APR 1998
52.215-8	Order of Precedence--Uniform Contract Format	OCT 1997
52.215-15	Pension Adjustments and Asset Reversions	OCT 2010
52.215-17	Waiver of Facilities Capital Cost of Money	OCT 1997
52.215-18	Reversion or Adjustment of Plans for Postretirement Benefits (PRB) Other than Pensions	JUL 2005
52.215-23	Limitations on Pass-Through Charges	OCT 2009

52.215-23 Alt I	Limitations on Pass-Through Charges (Oct 2009) - Alternate I	OCT 2009
52.216-7	Allowable Cost And Payment	JUN 2013
52.216-15	Predetermined Indirect Cost Rates	APR 1998
52.219-8	Utilization of Small Business Concerns	JUL 2013
52.219-9	Small Business Subcontracting Plan	JUL 2013
52.219-16	Liquidated Damages-Subcontracting Plan	JAN 1999
52.219-28	Post-Award Small Business Program Rerepresentation	JUL 2013
52.222-2	Payment For Overtime Premiums	JUL 1990
52.222-3	Convict Labor	JUN 2003
52.222-21	Prohibition Of Segregated Facilities	FEB 1999
52.222-26	Equal Opportunity	MAR 2007
52.222-35	Equal Opportunity for Veterans	SEP 2010
52.222-36	Affirmative Action For Workers With Disabilities	OCT 2010
52.222-37	Employment Reports on Veterans	SEP 2010
52.222-40	Notification of Employee Rights Under the National Labor Relations Act	DEC 2010
52.222-50	Combating Trafficking in Persons	FEB 2009
52.222-54	Employment Eligibility Verification	AUG 2013
52.223-6	Drug-Free Workplace	MAY 2001
52.223-18	Encouraging Contractor Policies To Ban Text Messaging While Driving	AUG 2011
52.225-13	Restrictions on Certain Foreign Purchases	JUN 2008
52.227-1 Alt I	Authorization And Consent (Dec 2007) - Alternate I	APR 1984
52.227-2	Notice And Assistance Regarding Patent And Copyright Infringement	DEC 2007
52.227-11 Alt II	Patent Rights--Ownership by the Contractor (Dec 2007) - Alternate II	DEC 2007
52.228-7	Insurance --Liability To Third Persons	MAR 1996
52.232-9	Limitation On Withholding Of Payments	APR 1984
52.232-17	Interest	OCT 2010
52.232-18	Availability Of Funds	APR 1984
52.232-22	Limitation Of Funds	APR 1984
52.232-23	Assignment Of Claims	JAN 1986
52.232-25	Prompt Payment	JUL 2013
52.232-25 Alt I	Prompt Payment (July 2013) Alternate I	FEB 2002
52.232-33	Payment by Electronic Funds Transfer--System for Award Management	JUL 2013
52.232-40	Providing Accelerated Payments to Small Business Subcontractors	DEC 2013
52.233-1	Disputes	JUL 2002
52.233-3	Protest After Award	AUG 1996

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52.233-4	Applicable Law for Breach of Contract Claim	OCT 2004
52.236-5	Material and Workmanship	APR 1984
52.236-7	Permits and Responsibilities	NOV 1991
52.242-1	Notice of Intent to Disallow Costs	APR 1984
52.242-3	Penalties for Unallowable Costs	MAY 2001
52.242-4	Certification of Final Indirect Costs	JAN 1997
52.242-13	Bankruptcy	JUL 1995
52.242-15 Alt I	Stop-Work Order (Aug 1989) - Alternate I	APR 1984
52.243-1 Alt V	Changes--Fixed-Price (Aug 1987) - Alternate V	APR 1984
52.245-1 Alt II	Government Property (Apr 2012) Alternate II	APR 2012
52.245-9	Use And Charges	APR 2012
52.246-4	Inspection Of Services--Fixed Price	AUG 1996
52.249-9	Default (Fixed-Priced Research And Development)	APR 1984
52.251-1	Government Supply Sources	APR 2012
52.252-2	Clauses Incorporated By Reference	FEB 1998
52.253-1	Computer Generated Forms	JAN 1991
252.201-7000	Contracting Officer's Representative	DEC 1991
252.203-7000	Requirements Relating to Compensation of Former DoD Officials	SEP 2011
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense-Contract-Related Felonies	DEC 2008
252.203-7002	Requirement to Inform Employees of Whistleblower Rights	SEP 2013
252.204-7006	Billing Instructions	OCT 2005
252.211-7003	Item Identification and Valuation	JUN 2013
252.211-7007	Reporting of Government-Furnished Property	AUG 2012
252.215-7002	Cost Estimating System Requirements	DEC 2012
252.215-7003	Requirement for Submission of Data Other Than Certified Cost or Pricing Data--Canadian Commercial Corporation.	JUL 2012
252.222-7006	Restrictions on the Use of Mandatory Arbitration Agreements	DEC 2010
252.225-7006	Quarterly Reporting of Actual Contract Performance Outside the United States	OCT 2010
252.226-7001	Utilization of Indian Organizations and Indian-Owned Economic Enterprises, and Native Hawaiian Small Business Concerns	SEP 2004
252.227-7013	Rights in Technical Data--Noncommercial Items	JUN 2013
252.227-7016	Rights in Bid or Proposal Information	JAN 2011
252.227-7027	Deferred Ordering Of Technical Data Or Computer Software	APR 1988
252.227-7030	Technical Data--Withholding Of Payment	MAR 2000
252.227-7037	Validation of Restrictive Markings on Technical Data	JUN 2013

252.227-7039	Patents--Reporting Of Subject Inventions	APR 1990
252.232-7003	Electronic Submission of Payment Requests and Receiving Reports	JUN 2012
252.232-7010	Levies on Contract Payments	DEC 2006
252.235-7011	Final Scientific or Technical Report	NOV 2004
252.243-7002	Requests for Equitable Adjustment	DEC 2012
252.244-7000	Subcontracts for Commercial Items	JUN 2013
252.244-7001	Contractor Purchasing System Administration	JUN 2012
252.245-7000	Government-Furnished Mapping, Charting, and Geodesy Property	APR 2012
252.245-7001	Tagging, Labeling, and Marking of Government-Furnished Property	APR 2012
252.245-7002	Reporting Loss of Government Property	APR 2012
252.247-7024	Notification Of Transportation Of Supplies By Sea	MAR 2000
252.251-7000	Ordering From Government Supply Sources	AUG 2012

CLAUSES INCORPORATED BY FULL TEXT

252.216-9005 PROFIT OR FEE ON TRAVEL COSTS (JUL 2008)
Travel shall not be a profit or fee bearing cost element.

252.203-9000 Prohibition on the Use of Senior Mentors (JUNE 2010)
(a) The use of senior mentors by the Defense Threat Reduction Agency (DTRA) enhances the readiness of the Agency across a wide range of strategic, operational, joint, functional, technical, management and development mission areas. The relevant prior service, joint force experience, and unique expertise of these senior consultants provide senior leadership with valuable insights and contribute to the continuous improvement of the Agencies' operations.

(b) For the purposes of this clause, Senior Mentor is defined as a retired flag, general or other military officers (O-6) or retired senior civilian official (Senior Executive Service (SES), Senior Level (SL), Scientific and Professional (ST)) who provides expert experience-based mentoring, teaching, training, advice, and recommendations to senior military officers, staffs and students as they participate in war games, warfighting courses, operational planning, operational exercises, and decision-making exercises.

(c) In accordance with Secretary of Defense Memorandum entitled "Policy on Senior Mentors" dated April 1, 2010, DTRA will hire all senior mentors as highly qualified experts (HQE) under 5 U.S.C. 9903. This policy balances the need for DTRA to secure the specialized knowledge required for these operational exercises with the need to hire such experts in a manner that promotes public trust and confidence.

(d) The Contractor shall not include the use of senior mentors in bids or proposals for services/supplies offered to DTRA.

(e) The Contractor shall include the substance of this clause in all subcontracts.

252.216-9003 CONSULTANTS (OCT 1998)
Services of consultants shall be at rates and for periods approved in advance by the Contracting Officer. Requests for approval shall be submitted to the Contracting Officer sufficiently in advance of the need to use a consultant under this Contract. The request shall include (a) a copy of the proposed consultant agreement, (b) a brief biography of the consultant, and (c) an indication of the area(s) in which consultant's expertise will be utilized and why it is essential for contract performance. In addition, significant deviations from the dollar amount approved for consultant services, or changes in the consultants to be utilized, must likewise be approved in advance upon submission of adequate justification.

52.217-6 OPTION FOR INCREASED QUANTITY (MAR 1989)
The Government may increase the quantity of supplies called for in the Schedule at the unit price specified. The Contracting Officer may exercise the option by written notice to the Contractor within 60 days. Delivery of the added items shall continue at the same rate as the like items called for under the contract, unless the parties otherwise agree.

52.219-9 SMALL BUSINESS SUBCONTRACTING PLAN (JULY 2013)
(a) This clause does not apply to small business concerns.

(b) Definitions. As used in this clause--

"Alaska Native Corporation (ANC)" means any Regional Corporation, Village Corporation, Urban Corporation, or Group Corporation organized under the laws of the State of Alaska in accordance with the Alaska Native Claims Settlement Act, as amended (43 U.S.C. 1601, et seq.) and which is considered a minority and economically disadvantaged concern under the criteria at 43 U.S.C. 1626(e)(1). This definition also includes ANC direct and indirect subsidiary corporations, joint ventures, and partnerships that meet the requirements of 43 U.S.C. 1626(e)(2).

"Commercial item" means a product or service that satisfies the definition of commercial item in section 2.101 of the Federal Acquisition Regulation.

"Commercial plan" means a subcontracting plan (including goals) that covers the offeror's fiscal year and that applies to the entire production of commercial items sold by either the entire company or a portion thereof (e.g., division, plant, or product line).

"Electronic Subcontracting Reporting System (eSRS)" means the Governmentwide, electronic, web-based system for small business subcontracting program reporting. The eSRS is located at http://www.esrs.gov.

"Indian tribe" means any Indian tribe, band, group, pueblo, or community, including native villages and native groups (including corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act (43 U.S.C.A. 1601 et seq.), that is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs in accordance with 25 U.S.C. 1452(c). This definition also includes Indian-owned economic enterprises that meet the requirements of 25 U.S.C. 1452(e).

"Individual contract plan" means a subcontracting plan that covers the entire contract period (including option periods), applies to a specific contract, and has goals that are based on the offeror's planned subcontracting in support of the specific contract except that indirect costs incurred for common or joint purposes may be allocated on a prorated basis to the contract.

"Master plan" means a subcontracting plan that contains all the required elements of an individual contract plan, except goals, and may be incorporated into individual contract plans, provided the master plan has been approved.

"Subcontract" means any agreement (other than one involving an employer-employee relationship) entered into by a Federal Government prime Contractor or subcontractor calling for supplies or services required for performance of the contract or subcontract.

(c) The offeror, upon request by the Contracting Officer, shall submit and negotiate a subcontracting plan, where applicable, that separately addresses subcontracting with small business concerns, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business concerns, small disadvantaged business, and with women-owned small business concerns. If the offeror is submitting an individual contract plan, the plan must separately address subcontracting with small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns with a separate part for the basic contract and separate parts for each option (if any). The plan shall be included in and made a part of the resultant contract. The subcontracting plan shall be negotiated within the time specified by the Contracting Officer. Failure to submit and negotiate the subcontracting plan shall make the offeror ineligible for award of a contract.

(d) The offeror's subcontracting plan shall include the following:

(1) Goals, expressed in terms of percentages of total planned subcontracting dollars, for the use of small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns as subcontractors. The offeror shall include all subcontracts that contribute to contract performance, and may include a proportionate share of products and services that are normally allocated as indirect costs. In accordance with 43 U.S.C. 1626:

(i) Subcontracts awarded to an ANC or Indian tribe shall be counted towards the subcontracting goals for small business and small disadvantaged business (SDB) concerns, regardless of the size or Small Business Administration certification status of the ANC or Indian tribe.

(ii) Where one or more subcontractors are in the subcontract tier between the prime contractor and the ANC or Indian tribe, the ANC or Indian tribe shall designate the appropriate contractor(s) to count the subcontract towards its small business and small disadvantaged business subcontracting goals.

(A) In most cases, the appropriate Contractor is the Contractor that awarded the subcontract to the ANC or Indian tribe.

(B) If the ANC or Indian tribe designates more than one Contractor to count the subcontract toward its goals, the ANC or Indian tribe shall designate only a portion of the total subcontract award to each Contractor. The sum of the amounts designated to various Contractors cannot exceed the total value of the subcontract.

(C) The ANC or Indian tribe shall give a copy of the written designation to the Contracting Officer, the prime Contractor, and the subcontractors in between the prime Contractor and the ANC or Indian tribe within 30 days of the date of the subcontract award.

(D) If the Contracting Officer does not receive a copy of the ANC's or the Indian tribe's written designation within 30 days of the subcontract award, the Contractor that awarded the subcontract to the ANC or Indian tribe will be considered the designated Contractor.

(2) A statement of --

(i) Total dollars planned to be subcontracted for an individual contract plan; or the offeror's total projected sales, expressed in dollars, and the total value of projected subcontracts to support the sales for a commercial plan;

(ii) Total dollars planned to be subcontracted to small business concerns (including ANC and Indian tribes);

(iii) Total dollars planned to be subcontracted to veteran-owned small business concerns;

(iv) Total dollars planned to be subcontracted to service-disabled veteran-owned small business;

(v) Total dollars planned to be subcontracted to HUBZone small business concerns;

(vi) Total dollars planned to be subcontracted to small disadvantaged business concerns (including ANCs and Indian tribes); and

(vii) Total dollars planned to be subcontracted to women-owned small business concerns.

(3) A description of the principal types of supplies and services to be subcontracted, and an identification of the types planned for subcontracting to --

(i) Small business concerns,

(ii) Veteran-owned small business concerns;

(iii) Service-disabled veteran-owned small business concerns;

(iv) HUBZone small business concerns;

(v) Small disadvantaged business concerns, and

(vi) Women-owned small business concerns.

(4) A description of the method used to develop the subcontracting goals in paragraph (d)(1) of this clause.

(5) A description of the method used to identify potential sources for solicitation purposes (e.g., existing company source lists, the System for Award Management (SAM), veterans service organizations, the National Minority Purchasing Council Vendor Information Service, the Research and Information Division of the Minority Business Development Agency in the Department of Commerce, or small, HUBZone, small disadvantaged, and women-owned small business trade associations). A firm may rely on the information contained in SAM as an accurate representation of a concern's size and ownership characteristics for the purposes of maintaining a small, veteran-owned small, service-disabled veteran-owned small, HUBZone small, small disadvantaged, and women-owned small business source list. Use of SAM as its source list does not relieve a firm of its responsibilities (e.g., outreach, assistance, counseling, or publicizing subcontracting opportunities) in this clause.

(6) A statement as to whether or not the offeror included indirect costs in establishing subcontracting goals, and a description of the method used to determine the proportionate share of indirect costs to be incurred with --

(i) Small business concerns (including ANC and Indian tribes);

(ii) Veteran-owned small business concerns;

(iii) Service-disabled veteran-owned small business concerns;

(iv) HUBZone small business concerns;

(v) Small disadvantaged business concerns (including ANC and Indian tribes); and

(vi) Women-owned small business concerns.

(7) The name of the individual employed by the offeror who will administer the offeror's subcontracting program, and a description of the duties of the individual.

(8) A description of the efforts the offeror will make to assure that small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns have an equitable opportunity to compete for subcontracts.

(9) Assurances that the offeror will include the clause of this contract entitled "Utilization of Small Business Concerns" in all subcontracts that offer further subcontracting opportunities, and that the offeror will require all subcontractors (except small business concerns) that receive subcontracts in excess of $650,000 ($1.5 million for construction of any public facility with further subcontracting possibilities) to adopt a plan similar to the plan that complies with the requirements of this clause.

(10) Assurances that the offeror will --

(i) Cooperate in any studies or surveys as may be required;

(ii) Submit periodic reports so that the Government can determine the extent of compliance by the offeror with the subcontracting plan;

(iii) Submit the Individual Subcontract Report (ISR) and/or the Summary Subcontract Report (SSR), in accordance with paragraph (l) of this clause using the Electronic Subcontracting Reporting System (eSRS) at http://www.esrs.gov. The reports shall provide information on subcontract awards to small business concerns (including ANCs and Indian tribes that are not small businesses), veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns (including ANCs and Indian tribes that have not been certified by the Small Business Administration as small disadvantaged businesses), women-owned small business concerns, and Historically Black Colleges and Universities and Minority Institutions. Reporting shall be in accordance with this clause, or as provided in agency regulations;

(iv) Ensure that its subcontractors with subcontracting plans agree to submit the ISR and/or the SSR using eSRS;

(v) Provide its prime contract number, its DUNS number, and the e-mail address of the offeror's official responsible for acknowledging receipt of or rejecting the ISRs, to all first-tier subcontractors with subcontracting plans so they can enter this information into the eSRS when submitting their ISRs; and

(vi) Require that each subcontractor with a subcontracting plan provide the prime contract number, its own DUNS number, and the e-mail address of the subcontractor's official responsible for acknowledging receipt of or rejecting the ISRs, to its subcontractors with subcontracting plans.

(11) A description of the types of records that will be maintained concerning procedures that have been adopted to comply with the requirements and goals in the plan, including establishing source lists; and a description of the offeror's efforts to locate small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns and award subcontracts to them. The records shall include at least the following (on a plant-wide or company-wide basis, unless otherwise indicated):

(i) Source lists (e.g., SAM), guides, and other data that identify small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns.

(ii) Organizations contacted in an attempt to locate sources that are small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, or women-owned small business concerns.

(iii) Records on each subcontract solicitation resulting in an award of more than $150,000, indicating --

(A) Whether small business concerns were solicited and if not, why not;

(B) Whether veteran-owned small business concerns were solicited and, if not, why not;

(C) Whether service-disabled veteran-owned small business concerns were solicited and, if not, why not;

(D) Whether HUBZone small business concerns were solicited and, if not, why not;

(E) Whether small disadvantaged business concerns were solicited and if not, why not;

(F) Whether women-owned small business concerns were solicited and if not, why not; and

(G) If applicable, the reason award was not made to a small business concern.

(iv) Records of any outreach efforts to contact --

(A) Trade associations;

(B) Business development organizations;

(C) Conferences and trade fairs to locate small, HUBZone small, small disadvantaged, and women-owned small business sources; and

(D) Veterans service organizaions.

(v) Records of internal guidance and encouragement provided to buyers through --

(A) Workshops, seminars, training, etc., and

(B) Monitoring performance to evaluate compliance with the program's requirements.

(vi) On a contract-by-contract basis, records to support award data submitted by the offeror to the Government, including the name, address, and business size of each subcontractor. Contractors having commercial plans need not comply with this requirement.

(e) In order to effectively implement this plan to the extent consistent with efficient contract performance, the Contractor shall perform the following functions:

(1) Assist small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns by arranging solicitations, time for the preparation of bids, quantities, specifications, and delivery schedules so as to facilitate the participation by such concerns. Where the Contractor's lists of potential small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business subcontractors are excessively long, reasonable effort shall be made to give all such small business concerns an opportunity to compete over a period of time.

(2) Provide adequate and timely consideration of the potentialities of small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns in all "make-or-buy" decisions.

(3) Counsel and discuss subcontracting opportunities with representatives of small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business firms.

(4) Confirm that a subcontractor representing itself as a HUBZone small business concern is identified as a certified HUBZone small business concern by accessing the SAM database or by contacting SBA.

(5) Provide notice to subcontractors concerning penalties and remedies for misrepresentations of business status as small, veteran-owned small business, HUBZone small, small disadvantaged or women-owned small business for the purpose of obtaining a subcontract that is to be included as part or all of a goal contained in the Contractor's subcontracting plan.

(6) For all competitive subcontracts over the simplified acquisition threshold in which a small business concern received a small business preference, upon determination of the successful subcontract offeror, the Contractor must inform each unsuccessful small business subcontract offeror in writing of the name and location of the apparent successful offeror prior to award of the contract.

(f) A master plan on a plant or division-wide basis that contains all the elements required by paragraph (d) of this clause, except goals, may be incorporated by reference as a part of the subcontracting plan required of the offeror by this clause; provided --

(1) The master plan has been approved;

(2) The offeror ensures that the master plan is updated as necessary and provides copies of the approved master plan, including evidence of its approval, to the Contracting Officer; and

(3) Goals and any deviations from the master plan deemed necessary by the Contracting Officer to satisfy the requirements of this contract are set forth in the individual subcontracting plan.

(g) A commercial plan is the preferred type of subcontracting plan for contractors furnishing commercial items. The commercial plan shall relate to the offeror's planned subcontracting generally, for both commercial and Government business, rather than solely to the Government contract. Once the Contractor's commercial plan has been approved, the Government will not require another subcontracting plan from the same Contractor while the plan remains in effect, as long as the product or service being provided by the Contractor continues to meet the definition of a commercial item. A Contractor with a commercial plan shall comply with the reporting requirements stated in paragraph (d)(10) of this clause by submitting one SSR in eSRS for all contracts covered by its commercial plan. This report shall be acknowledged or rejected in eSRS by the Contracting Officer who approved the plan. This report shall be submitted within 30 days after the end of the Government's fiscal year.

(h) Prior compliance of the offeror with other such subcontracting plans under previous contracts will be considered by the Contracting Officer in determining the responsibility of the offeror for award of the contract.

(i) A contract may have no more than one plan. When a modification meets the criteria in 19.702 for a plan, or an option is exercised, the goals associated with the modification or option shall be added to those in the existing subcontract plan.

(j) Subcontracting plans are not required from subcontractors when the prime contract contains the clause at 52.212-5, Contract Terms and Conditions Required to Implement Statutes or Executive Orders--Commercial Items, or when the subcontractor provides a commercial item subject to the clause at 52.244-6, Subcontracts for Commercial Items, under a prime contract.

(k) The failure of the Contractor or subcontractor to comply in good faith with --

(1) The clause of this contract entitled "Utilization Of Small Business Concerns;" or

(2) An approved plan required by this clause, shall be a material breach of the contract.

(l) The Contractor shall submit ISRs and SSRs using the web-based eSRS at http://www.esrs.gov. Purchases from a corporation, company, or subdivision that is an affiliate of the prime Contractor or subcontractor are not included in these reports. Subcontract award data reported by prime Contractors and subcontractors shall be limited to awards made to their immediate next-tier subcontractors. Credit cannot be taken for awards made to lower tier subcontractors, unless the Contractor or subcontractor has been designated to receive a small business or small disadvantaged business credit from an ANC or Indian tribe. Only subcontracts involving performance in the United States or its outlying areas should be included in these reports with the exception of subcontracts under a contract awarded by the State Department or any other agency that has statutory or regulatory authority to require subcontracting plans for subcontracts performed outside the United States and its outlying areas.

(1) ISR. This report is not required for commercial plans. The report is required for each contract containing an individual subcontract plan.

(i) The report shall be submitted semi-annually during contract performance for the periods ending March 31 and September 30. A report is also required for each contract within 30 days of contract completion. Reports are due 30 days after the close of each reporting period, unless otherwise directed by the Contracting Officer. Reports are required when due, regardless of whether there has been any subcontracting activity since the inception of the contract or the previous reporting period.

(ii) When a subcontracting plan contains separate goals for the basic contract and each option, as prescribed by FAR 19.704(c), the dollar goal inserted on this report shall be the sum of the base period through the current option; for example, for a report submitted after the second option is exercised, the dollar goal would be the sum of the goals for the basic contract, the first option, and the second option.

(iii) The authority to acknowledge receipt or reject the ISR resides--

(A) In the case of the prime Contractor, with the Contracting Officer; and

(B) In the case of a subcontract with a subcontracting plan, with the entity that awarded the subcontract.

(2) SSR.

(i) Reports submitted under individual contract plans--

(A) This report encompasses all subcontracting under prime contracts and subcontracts with the awarding agency, regardless of the dollar value of the subcontracts.

(B) The report may be submitted on a corporate, company or subdivision (e.g. plant or division operating as a separate profit center) basis, unless otherwise directed by the agency.

(C) If a prime Contractor and/or subcontractor is performing work for more than one executive agency, a separate report shall be submitted to each executive agency covering only that agency's contracts, provided at least one of that agency's contracts is over $650,000 (over $1.5 million for construction of a public facility) and contains a subcontracting plan. For DoD, a consolidated report shall be submitted for all contracts awarded by military departments/agencies and/or subcontracts awarded by DoD prime Contractors. However, for construction and related maintenance and repair, a separate report shall be submitted for each DoD component.

(D) For DoD and NASA, the report shall be submitted semi-annually for the six months ending March 31 and the twelve months ending September 30. For civilian agencies, except NASA, it shall be submitted annually for the twelve month period ending September 30. Reports are due 30 days after the close of each reporting period.

(E) Subcontract awards that are related to work for more than one executive agency shall be appropriately allocated.

(F) The authority to acknowledge or reject SSRs in eSRS, including SSRs submitted by subcontractors with subcontracting plans, resides with the Government agency awarding the prime contracts unless stated otherwise in the contract.

(ii) Reports submitted under a commercial plan--

(A) The report shall include all subcontract awards under the commercial plan in effect during the Government's fiscal year.

(B) The report shall be submitted annually, within thirty days after the end of the Government's fiscal year.

(C) If a Contractor has a commercial plan and is performing work for more than one executive agency, the Contractor shall specify the percentage of dollars attributable to each agency from which contracts for commercial items were received.

(D) The authority to acknowledge or reject SSRs for commercial plans resides with the Contracting Officer who approved the commercial plan.

(iii) All reports submitted at the close of each fiscal year (both individual and commercial plans) shall include a Year-End Supplementary Report for Small Disadvantaged Businesses. The report shall include subcontract awards, in whole dollars, to small disadvantaged business concerns by North American Industry Classification System (NAICS) Industry Subsector. If the data are not available when the year-end SSR is submitted, the prime Contractor and/or subcontractor shall submit the Year-End Supplementary Report for Small Disadvantaged Businesses within 90 days of submitting the year-end SSR. For a commercial plan, the Contractor may obtain from each of its subcontractors a predominant NAICS Industry Subsector and report all awards to that subcontractor under its predominant NAICS Industry Subsector.

52.244-2 SUBCONTRACTS (OCT 2010)
(a) Definitions. As used in this clause--

Approved purchasing system means a Contractor's purchasing system that has been reviewed and approved in accordance with Part 44 of the Federal Acquisition Regulation (FAR).

Consent to subcontract means the Contracting Officer's written consent for the Contractor to enter into a particular subcontract.

Subcontract means any contract, as defined in FAR Subpart 2.1, entered into by a subcontractor to furnish supplies or services for performance of the prime contract or a subcontract. It includes, but is not limited to, purchase orders, and changes and modifications to purchase orders.

(b) When this clause is included in a fixed-price type contract, consent to subcontract is required only on unpriced contract actions (including unpriced modifications or unpriced delivery orders), and only if required in accordance with paragraph (c) or (d) of this clause.

(c) If the Contractor does not have an approved purchasing system, consent to subcontract is required for any subcontract that—

(1) Is of the cost-reimbursement, time-and-materials, or labor-hour type; or

(2) Is fixed-price and exceeds—

(i) For a contract awarded by the Department of Defense, the Coast Guard, or the National Aeronautics and Space Administration, the greater of the simplified acquisition threshold or 5 percent of the total estimated cost of the contract; or

(ii) For a contract awarded by a civilian agency other than the Coast Guard and the National Aeronautics and Space Administration, either the simplified acquisition threshold or 5 percent of the total estimated cost of the contract.

(d) If the Contractor has an approved purchasing system, the Contractor nevertheless shall obtain the Contracting Officer's written consent before placing the following subcontracts:

Subcontracts or Consultants (for Consultants see DTRA 252 216-9003 in Section H)

(e)(1) The Contractor shall notify the Contracting Officer reasonably in advance of placing any subcontract or modification thereof for which consent is required under paragraph (b), (c), or (d) of this clause, including the following information:

(i) A description of the supplies or services to be subcontracted.

(ii) Identification of the type of subcontract to be used.

(iii) Identification of the proposed subcontractor.

(iv) The proposed subcontract price.

(v) The subcontractor's current, complete, and accurate certified cost or pricing data and Certificate of Current Cost or Pricing Data, if required by other contract provisions.

(vi) The subcontractor's Disclosure Statement or Certificate relating to Cost Accounting Standards when such data are required by other provisions of this contract.

(vii) A negotiation memorandum reflecting—

(A) The principal elements of the subcontract price negotiations;

(B) The most significant considerations controlling establishment of initial or revised prices;

(C) The reason certified cost or pricing data were or were not required;

(D) The extent, if any, to which the Contractor did not rely on the subcontractor's certified cost or pricing data in determining
the price objective and in negotiating the final price;

(E) The extent to which it was recognized in the negotiation that the subcontractor's certified cost or pricing data were not accurate, complete, or current; the action taken by the Contractor and the subcontractor; and the effect of any such defective data on the total price negotiated;

(F) The reasons for any significant difference between the Contractor's price objective and the price negotiated; and

(G) A complete explanation of the incentive fee or profit plan when incentives are used. The explanation shall identify each critical performance element, management decisions used to quantify each incentive element, reasons for the incentives, and a summary of all trade-off possibilities considered.

(2) The Contractor is not required to notify the Contracting Officer in advance of entering into any subcontract for which consent is not required under paragraph (c), (d), or (e) of this clause.

(f) Unless the consent or approval specifically provides otherwise, neither consent by the Contracting Officer to any subcontract nor approval of the Contractor's purchasing system shall constitute a determination—

(1) Of the acceptability of any subcontract terms or conditions;

(2) Of the allowability of any cost under this contract; or

(3) To relieve the Contractor of any responsibility for performing this contract.

(g) No subcontract or modification thereof placed under this contract shall provide for payment on a cost-plus-a-percentage-of-cost basis, and any fee payable under cost-reimbursement type subcontracts shall not exceed the fee limitations in FAR 15.404-4(c)(4)(i).

(h) The Contractor shall give the Contracting Officer immediate written notice of any action or suit filed and prompt notice of any claim made against the Contractor by any subcontractor or vendor that, in the opinion of the Contractor, may result in litigation related in any way to this contract, with respect to which the Contractor may be entitled to reimbursement from the Government.

(i) The Government reserves the right to review the Contractor's purchasing system as set forth in FAR Subpart 44.3.

(j) Paragraphs (c) and (e) of this clause do not apply to the following subcontracts, which were evaluated during negotiations:

(End of clause)

252.203-9005, Implementation of Contractor Code of Business Ethics and Conduct (Dec 2008)

In accordance with FAR clause 52.203-13, Contractor Code of Business Ethics and Conduct, the designated "agency Office of the Inspector General" is the DoD OIG at the following address:

Office of the Inspector General
United States Department of Defense
Investigative Policy and Oversight
Contractor Disclosure Program
400 Army Navy Drive, Suite 1037
Arlington, VA 22202-4704
Toll Free Telephone: 866-429-8011

252.204-9001 UNIVERSITIES DISCLOSURE OF INFORMATION (JUL 2009)

(a) The Contractor shall not release to anyone outside the Contractor's organization any unclassified information, regardless of medium (e.g. film, tape, document) pertaining to any part of this contract or any program related to this contract, unless the information results from fundamental research, as defined below:

> "Fundamental research" as used in this clause, means basic and applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community, as distinguished from proprietary research and from industrial development, design, production, and product utilization, the results of which ordinarily are restricted for proprietary or national security reasons.

(b) The Contractor shall confer and consult with DTRA on technical aspects of its research and submit technical documents intended for publication to the cognizant DTRA technical representative(s) for review, a minimum of 45 days prior to publication or other dissemination. The purpose of the DTRA review period is to ensure the government ample opportunity to provide comments and suggestions for the researchers' consideration.

252.204-9004 IMPLEMENTATION OF DISCLOSURE OF INFORMATION (JUN 2007)
In accordance with DFARS 252.204-7000 Disclosure of Information, any information to be released shall be submitted at least 45 days before the proposed release date, for security and policy review. Submit one copy to each below:

(a) Office of Public Affairs, DTRA/DIR/COS/PA, 8725 John J. Kingman Dr, MS 6201, Ft Belvoir VA 22060-6201.
(b) Contracting Officer
(c) Program Manager

METABIOTA

COMPETING PROPOSALS

Metabiota, Inc.
425 California Street, Suite 200; San Francisco, CA 94104

Subject: RE: Quick Chat re: Iraq Epi Trainings
Date: Wednesday, April 27, 2016 at 4:50:21 PM Eastern Daylight Time
From: (b)(6)
To:
CC:
Attachments:

H(b)(6)

Thanks to both you and Carlyle for speaking with me on Monday evening. After internal discussion, we have concerns about whether there is enough information and clarity of path forward for CRDF Global to submit a full proposal. The lack of important information that Metabiota is waiting to receive from DTRA about program activities and expected outcomes – which wi l impact the budget and the timeline – makes it difficult to put together a quality proposal.

I propose that we break the work into two phases:

- Phase 1: CRDF Global completes the search for qualified epidemiologists to support the Iraq Field Epidemiology Training Program Support Course. I will continue to provide Metabiota with names/CVs as soon as I find options. Metabiota may consider contacting/interviewing these individuals directly to see if they are available/interested in the work.
- Phase 2: Once Metabiota identifies the best FLN(s) and receives final instructions from DTRA regarding the Iraq Field Epidemiology Training Program Support Course activities, CRDF Global and Metabiota can undertake next steps – in a fully informed way – to develop a contract/SOW and complete the work.

Hopefully we can make a decision on this proposal ASAP. If it is acceptable to you, a simple contract for Phase 1 is attached.

I understand that you are operating on a very tight timeline. I am attaching CVs of FLNs (see list below) that I believe would be a good fit for the Iraq Field Epidemiology Training Program Support Course.

In-country Options	Justification
(b)(6)	Currently a Field Epidemiologist with the Zoonotic Disease Section of the MOH in Baghdad. He completed a DTRA-sponsored fellowship (IBFP), spending a couple of months working at the CDC and University of Georgia identifying and characterizing *Salmonella enterica* through serotyping and whole genome sequencing.
	Currently works in the Zoonotic diseases section of Iraqi MoH, Center for Disease Control in Baghdad. He completed a DTRA-sponsored fellowship (ISFP) at the University of Rochester. He has very strong communication skills as evidenced by an impressive presentation to CRDF Global and DTRA in 2015.
	Senior level employee at the University of al-Qadisiyah, just outside of Baghdad. While his CV denotes a technical aspect, his main university role is of an administrator. He would easily be able to fill the FLN/SME role with his experience and his high-level communication skills.

Virtual Options	Justification
(b)(6)	Professor of epidemiology and animal health at the Jordan University of Science and Technology (JUST) in Irbid, Jordan. He has worked globally, in a variety of different capacities, with OIE, FAO, IDB and other international organizations. (b)(6) has conducted virtual trainings in the past and has a great track record working with CRDF Global. Received his Ph.D from Purdue University.

If you have any questions, please do not hesitate to ask. I look forward to hearing from you soon.

Thank you,
Dane

(b)(6)
Program Manager
CRDF Global
1776 Wilson Blvd., Suite 300
Arlington, VA 22209
703.600.3442 | Fax: 703.526.9721 | Cel (b)(6)
| Skype: daniel.button.crdf |

INSPIRED BY PEOPLE | DRIVEN BY SCIENCE

From: (b)(6)
Sent: Monday, April 25, 2016 4:28 PM
To: (b)(6)
Subject: Re: Quick Chat re: Iraq Epi Trainings

Hi (b)(6)

To answer your question from our phone call earlier, we would want to communicate directly with the FLN's on the project as needed, but we'd also like to have a CRDF Project Coordinator, or POC, involved who would communicate with the FLN's daily and coordinate their activities. Does that make sense? (b)(6) could probably explain this better if you have any additional questions, please feel free to reach out to her at (b)(6)

Thanks,
Emily

Subject: RE: Introduction to (b)(6) ith Metabiota
Date: Monday, April 11, 2016 at 2:15:49 PM Eastern Daylight Time
From: (b)(6)
To:
CC:
Attachments: image001.png, image002.png

Dea (b)(6)

Thank you for your patience as we've worked with our partners and consultants here and in Iraq to put together support for the virtual and in-person trainings. We have confirmation from a consultant whom we would put forward at a rate of $165/hour. This rate is inclusive of all American Councils' overseas and domestic U.S. staffing/consulting costs. Based on initial discussions with you we estimate that the total number of billable consultant hours would equal about 577.

Consultant 1: PhD from major U.S. university in Food Science, Masters in Agriculture, focus on Biotech and Food Science. Certification in hazard training and hazard analysis. Iraqi national.

Consultant 2: We are still working to identify a logistics/support consultant but anticipate being able to do that shortly. The hour calculation above includes limited support from this consultant.

Please note that costs such as travel, accommodation, per diem, etc are not included in the hourly rate.

Let us know what you think.

Best, (b)(6)

(b)(6)
Vice President, Program and Business Development
American Councils for International Education
1828 L Street N.W., Suite 1200
Washington, D.C. 20036
T 202 833 7522
F 202 833 7523
www.americancouncils.org

AMERICAN

From: (b)(6)

AGREEMENT FOR CRDF GLOBAL SERVICES

AGREEMENT COVER SHEET

Sponsor	Metabiota, Inc.
Address	1 Sutter Street
City/State/Country/Postal Code	San Francisco, CA 94104
Sponsor Technical (b)(6)	(b)(6)
CRDF Global Contact	
Telephone	
E-mail	
Project Budget	**$1,847.40**
CRDF Global Fees	N/A
Project Title	Research & Identification Services, Iraqi Epidemiologist/Biologist FLN
Attachments	**Agreement Terms & Conditions**
	Appendix A: Services & Fee Schedule
	Appendix B: Project Budget

This Agreement for CRDF Global Services (with all attachments, hereafter the "Agreement"), constitutes the complete understanding between CRDF Global, located at 1776 Wilson Blvd, Suite 300, Arlington, VA 22209, USA, and the Sponsor and supplants all representations of the Parties, whether oral or written, made prior to execution of this Agreement. No subsequent modification, extension or amendment to any part of this Agreement will be valid unless in writing, and signed by both Parties.

By signature of their authorized representatives below, the Parties make and enter into this Agreement as of the date of CRDF Global execution.

Sponsor Signature	**Print Name/Title**	**Date**
	(b)(6)	April 26, 2016
CRDF Global Signature	**Print Name/Title**	**Date**
	(b)(6)	

AGREEMENT TERMS & CONDITIONS

I. DEFINITIONS

"CRDF Global" – CRDF Global is a registered trade name of the U.S. Civilian Research & Development Foundation.

"Program" – The specific activity for which support is to be provided by CRDF Global.

"Sponsor" – The organization providing funding in support of the Program.

II. GENERAL RESPONSIBILITIES

The Sponsor hereby seeks CRDF Global services to provide logistical and administrative support for the Program described in Appendix A. The Sponsor hereby agrees to abide by the terms of this agreement including the payment of all relevant expenses as provided herein. CRDF Global agrees to provide logistical and administrative support services as set forth in Appendix A on behalf of the Sponsor.

IV. ELIGIBILITY

CRDF Global offers these services for civilian scientific research, educational and charitable activities of a pre-commercial nature. Programs may be basic or applied research. Programs may involve prototype development or process engineering, but may not include commercial manufacturing, sales or marketing. Programs with the aim of the development or improvement of a technology for military application are not eligible. Non-research activities that are eligible for consideration include a range of educational and training activities, environmental conservation and remediation programs, infrastructure development programs (e.g. donation of computers or other equipment) and other related activities.

CRDF Global reserves the right to decline this service to any organization, in connection with any program which CRDF Global, in its sole discretion, deems to be incompatible with CRDF Global's organizational mission or program guidelines and procedures.

V. CRDF GLOBAL EXPENSES

For services provided by CRDF Global hereunder, the Sponsor agrees to pay CRDF Global staff labor, staff benefits and associated indirect costs. CRDF Global staff personnel costs will include coordination, communications and report compilation. Fringe benefits associated with personnel costs include health and life insurance, leave and all mandatory payroll taxes. CRDF Global is responsible for remittance of all mandatory payroll taxes.

VI. PAYMENT TERMS

CRDF Global will invoice the Sponsor on a monthly basis for reimbursement of costs incurred. The Sponsor will reimburse CRDF Global within 30 days of the date of invoice.

VII. NO OTHER RELATIONSHIP

Neither party under this agreement may be considered an official representative, agent, or employee of the other party nor may either party represent itself as such. The relationship between the parties shall be determined solely by the terms contained herein.

VIII. SUSPENSION AND TERMINATION

Either party may suspend or terminate service, in whole or in part, for any reason by providing at least 10 calendar days written notice to the other Party. In the event of suspension or termination, settlement payments or adjustments will be made on the basis of costs incurred and non-cancellable commitments as of the date of suspension or termination. CRDF Global will provide a final financial report to the Sponsor within 30 days of the date of termination.

IX. EXPORT CONTROL COMPLIANCE CERTIFICATION

Each party hereby acknowledges that the rights and obligations of this Agreement are subject to the laws and regulations of the United States relating to the export of products and technical information. Without limitation, each party shall comply with all such applicable laws and regulations.

X. CONFIDENTIALITY AND PUBLIC ANNOUNCEMENT

All aspects of this agreement, except financial aspects and information designated ***in writing at the time of acceptance*** by the Sponsor, are considered accessible to the public. CRDF Global may include the name of the Sponsor in published lists of clients in program materials and reports. Information on specific Programs such as abstracts, technical results, or other detail will only be used in public materials upon written approval of the Sponsor.

XI. REPORTING

CRDF Global will provide a final programmatic and financial report to the Sponsor detailing activities supported, payments received from the Sponsor, logistical support activities conducted on behalf of the Sponsor and expenses incurred during the performance period.

XII. FORCE MAJEURE

Neither party shall be liable in any way for delays or failure to perform any provision of this Agreement if such failure is caused by reason of strikes, lockouts, market shortages of labor or materials, acts of God,

interruptions of transportation or communication services, or any other cause, condition or circumstances beyond the control of the parties, including, the changing of any rules, law or regulation of any government or any bureau or department, or any sovereign act prohibiting performance of a party. The term of this Agreement will, upon agreement of the parties, be extended by the period of such delay. The agreement of a party to an extension of time for the performance of any obligation by another party pursuant to this paragraph will not be unreasonably withheld. This paragraph does not affect the ability of either party to terminate this Agreement as otherwise provided herein.

XIII. LIABILITY

Each party hereby indemnifies and agrees to defend and hold harmless the other, its officers, directors, employees and agents, and their successors and assigns from and against any and all claims, demands, and actions and any liabilities, damages, expenses (including reasonable attorneys' fees and litigation costs) resulting from, arising out of, or related to each party's respective performance of this Agreement or the representations or warranties made by the applicable party herein, except if, and to the extent, due to the negligent, willful or intentional misconduct of either Party, its officers, employees or agents. In addition, except as prohibited by applicable law, the Parties assume their own respective liability that may be incurred, including attorney's fees, in defending any action as a result of performance under this Agreement to the extent such liability is a result of the party's negligent, willful or intentional misconduct. The parties' obligations under this section shall survive the termination, for any reason, of this Agreement.

XIV. SEVERABILITY

In the event that any provision of these terms and conditions shall for any reason be held to be invalid or unenforceable by an adjudicative body of competent jurisdiction, the remaining terms and conditions shall continue in full force and effect and shall be interpreted as if such provision had never been contained herein.

XV. GOVERNING LAW

This Agreement, including the decision to arbitrate and any decision by an arbitrator, shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia, without regard to the conflicts of law principles thereof.

AGREEMENT FOR CRDF GLOBAL SERVICES
APPENDIX A: SCOPE OF WORK

I. Background

CRDF Global is a nonprofit organization authorized by the U.S. Congress and established in 1995 by the National Science Foundation. This unique organization promotes international scientific and technical collaboration through grants, technical resources, training, and services. CRDF Global is based in Arlington, Virginia with offices in Moscow, Russia; Kyiv, Ukraine; Almaty, Republic of Kazakhstan; and Amman, Jordan.

II. CRDF Global Services: Research & Identification Services, Iraqi Epidemiologist/Biologist FLN

CRDF Global will conduct research into candidates for an Iraqi Epidemiologist/Biologist Foreign Local National (FLN) position. (hereafter referred to as "Contractor"), according to the Contractor scope of work provided by the Sponsor. CRDF Global will provide a list of potential candidates to the Sponsor, and, as directed, will contact candidates to determine interest in the Iraq Field Epidemiology Training Program Support Course contract position.

Deliverable	Task	Description	Delivery Date
1. CV's	1.1	Provide Sponsor with CV's and resumes of epidemiologists that speak both Arabic and English to assist with in-person and online trainings.	As Received
2. Reports	1.2	Complete any additional reporting requirements, as necessary, and requested by the Sponsor, within the resources provided by the Agreement.	As needed

The Sponsor agrees that it will not hire or attempt to hire any candidates recommended under this Agreement except as facilitated by CRDF Global and authorized via a written modification to this Agreement, signed by both Parties.

All services will be provided by CRDF Global's representative office in Arlington, VA.

III. Budget

CRDF Global will provide services for the Research & Identification Services, Iraqi Epidemiologist/Biologist FLN with the reimbursement of CRDF Global Staff Personnel Costs, Fringe Benefits and General and Administrative and Office Support Costs of up to **USD $1,847.00**.

APPENDIX B: PROJECT BUDGET

CRDF Labor	Hours	Rate	Total
CRDF Global Program Staff	20	73.89	$1,477.80
		Subtotal CRDF Labor	**$1,477.80**
Other Direct Costs	**Units**	**Rate**	**Total**
		N/A	$0
		Subtotal, ODCs	**$0**
Indirect Costs	**Amount**	**Rate**	**Total**
General and Administrative		25.01%	$369.60
		SUBTOTAL, CRDF Global Support:	**$1,847.40**
		Total CRDF Budget	**$1,847.40**

UNIVERSITY RESEARCH CO., LLC

METABIOTA - Training course on field epidemiology

URC

Summary Budget

COST CATEGORIES		AMOUNT
LABOR	$	92,716
MATERIALS	$	4,200
INDIRECTS	$	798
TOTAL COST		**$97,714**

Use or disclosure of data contained on this page is subject to the restriction on the cover of this proposal

UNIVERSITY RESEARCH CO., LLC

METABIOTA - Training course on field epidemiology

(b)(4); (b)(6)

	Rate	Units	Units	Amount
LABOR				
(b)(4); (b)(6)				
(b)(4); (b)(6)				
(b)(4); (b)(6)				
TOTAL INDIRECT COSTS				**$798**
TOTAL ESTIMATED COST				**$97,714**

METABIOTA

PRICE NEGOTIATION MEMORANDUM
METABIOTA, INC./UNIVERSITY RESEARCH CO. LLC

GENERAL INFORMATION:

Contractor name	University Research Co., LLC (URC)
Proposal number	2016-13-DTRA
Proposal date	April 15, 2016
Proposal amount	$97,714
Negotiated amount	$62,184
Date negotiation completed	May 31, 2016

DESCRIPTION OF THE CONTRACT ACTION:

Purpose of negotiation (e.g., negotiate a new contract on sole source basis, definitization of a change order, negotiate an equitable adjustment):

Proposed total price and time on a Time and Materials contract with URC for a new contract on competitive basis to contract No. HDTRA1-14-C-0104. This PNM documents the proposed effort to support Tasks 1, 3 & 4 - Project Coordination, Qualified Trainers and Subject Matter Experts, as described in the SOW to support training event facilitation, preparation and execution. Participants in the subcontracting process are as follows:

Metabiota, Inc,	University Research Co., LLC
(b)(6)	

Description of the work (provide a brief summary of the general scope of the work encompassed by the action):

URC will provide foreign local national (FLN) support to facilitate, coordinate and implement the Iraq Field Epidemiology Training Program Support Course project. URC FLNs will support, facilitate and coordinate three separate 6-week remote/ online training programs, one 1-week NBERP Familiarization virtual workshop, and one 3-week a gap analysis report. In addition, FLNs will facilitate, coordinate and deliver one 1-week hands-on training course. URC US-based Operations Manager will provide overhead management to FLN's, coordinate communication between FLN's and Metabiota, support day-to-day activities, ensure compliance, and manage overall operational tasks.

APPROVALS AND COMPLIANCES:

Identify authority to negotiate___ (b)(6)

METABIOTA

Justification and Approval (J&A) Yes/Date_____ No_____**N/A**
Small Business subcontracting plan (FAR 19.702) was____ was not __**X**__applicable.
EEO clearance received (FAR 22.805) Yes____ No____ NA_**X**___
Offeror is not on the Debarred, Ineligible & Suspended Bidder List (FAR 9.4). **NO**

SUMMARY OF THE CONTRACTOR'S PROPOSAL AND THE GOVERNMENT (NEGOTIATOR) OBJECTIVE:

	Contractor Proposed	Negotiated Amount
(b)(4); (b)(6)		

NEGOTIATING PARTIES:

Identify the name position, organization and phone number/email of each person representing the contractor and the Government in the negotiation. Indicate the date(s) of the negotiation.

Contractor	**Name**	**Position**	**Organization**	**Phone/Email**
(b)(6)				
LLC			LLC	
Government	**Name**	**Position**	**Organization**	**Phone/Email**

METABIOTA

CURRENT STATUS OF CONTRACTOR'S SYSTEMS:

Indicate any change in the status of the contractor's systems, (e.g., purchasing, estimating, accounting and material management and accounting system) since execution of the prenegotiation objectives memorandum. If the status has changed indicate the impact on negotiations. **N/A**

Indicate any change in the status of the contractor's disclosure statement describing the contractor's cost accounting practices and procedures, and the date of the disclosure (FAR 30.202). If the status has changed since execution of the prenegotiation memorandum indicate the impact on negotiations. **N/A**

COST OR PRICING DATA:

Cost or pricing data was ___ was not _**X**__ required and obtained along with a Certificate of Current Cost and Pricing Data which was executed by the contractor on_____.

Cost or pricing data was ___ was not __**X**_ relied on in negotiating the contract price.

Where certified cost or pricing data was not obtained based on an exception listed in FAR 15.403-1, indicate the exception.

Certified cost or pricing data was not obtained per FAR 15.403-1 (a) - Certified cost or pricing data shall not be obtained for acquisitions at or below the simplified acquisition threshold.

COST ANALYSIS:

The proposed subcontract was a competitive bid Time and Materials (T&M) contract evaluated upon completed technical and cost proposal from URC to support the facilitation, coordination and delivery of remote and hands-on course activities in field epidemiology biosafety & biosecurity, and general risk management principles. The T&M issued to URC was determined to be the most appropriate mechanism for this procurement based on the fair and reasonable pricing submitted by the subcontractor and the Metabiota team's determination that this would be the most effective means to ensure efficient performance in the best interest of the government. This determination was made following an internal review of the subcontractor's budget by Metabiota's financial, contract, and technical departments in comparison to two competitive proposals to determine overall reasonableness of the cost. The budget provided by the subcontractor was reasonable compared to that of other service providers with similar contract tasks and levels of experience and expertise. In addition, the subcontractor's FLN rates are comparable to Metabiota's own rate structure and are deemed to be reasonable considering the added security costs for operating within a country amid political unrest.

METABIOTA

Cost Element	Contractor Proposed	Negotiation Objective	Negotiated Amount
(b)(4); (b)(6)			

NEGOTIATED OBJECTIVES TABLE

SIGNIFICANT FACTS AND IMPACTS BY OTHERS:

Indicate the most significant facts or considerations controlling the establishment of the prenegotiation objectives.

Determination to subcontract with URC was deemed to be the most effective way to successfully conduct the training for the following reasons:

1. URC has over 50 years' experience supporting scientific activities with extensive expertise in implementing training activities and providing organizational and strategic planning support. Regionally, URC has supported primary health care programs in Iraq since 2007 in the form of program management and local oversight. Specifically, URC supported DTRA CBEP and the BTRIC in both Iraq and Afghanistan through developing, translating and delivering CBEP-approved epidemiology trainings. Their proven track record with supporting and delivering scientific training events globally and regionally, combined with a wide network of academic researchers, university partners, and scientific communities, made URC a top candidate to provide local technical support.
2. URC was the sole bidder with qualified epidemiologists and physicians currently in-country, employed, and available to support this endeavor immediately. Their PhD-level expertise, backgrounds in field epidemiology, and previous experience both participating in the CDC Field Epidemiology Training Program and delivering DTRA CBEP training and workshops made them the only viable option to implement the proposed FETP Support program at the standards required by the US government.

To the extent such direction has a significant effect on the action, a discussion and quantification of the impact of the direction given by Congress, other agencies, higher-level

officials (i.e., officials who would not normally exercise authority during the award and review process for the instant contract action). **N/A**

DOCUMENTATION USED TO SUPPORT THE NEGOTIATION:

Indicate the following documents used to support the negotiation (Check all that are applicable)

Cost and price analysis__X_
Technical analysis_X___
DCAA audit report____
Past performance reports_____
Other (list) ___

DOCUMENTS ATTACHED TO THE PRICE NEGOTIATION MEMORANDUM:

1. American Councils competing proposal
2. CRDF competing proposal
3. URC original proposal

_____ _____
PRINCIPAL NEGOTIATOR DATE
TITLE

_____ _____
ADMINISTRATIVE CONTRACTING OFFICER DATE
(If the ACO is not the principal negotiator)

_____ _____
APPROVING OFFICIAL DATE
TITLE

Rough Order of Magnitude (RoM) Cost

LABOR	POSITION	RATE	LOE	MON (May-Aug)*	HRS / MON	TOTAL COST

Travel Authorization Form

TRIP #	
Project/Phase #	AEP CLIN008
Purpose:	Travel to Uganda to attend and participate in the OHE Training, Coh 9 Mod 1 in Jinja district of Uganda during 16-25 October 2015
SOW / Task	
Desired Outcome	
Dates, Location	16-25 October 2015, Jinja district, Uganda
Travelers:	NAME, POSITION: 1. Jean Paul Gonzalez, Senior Scientist; 2. Tom Vincent,
Lodging to be Arranged by:	
Contract:	AEP

FLIGHT AND TRAIN TICKETS

From:	To:	Airfare Cost	Booking Fee		Subtotal		Total
Flights - pax3 - IAD	Entebbe, UG	$ 1,200.00	$ 43.00		$ 1,243.00		$ 3,729.00
Flight - Bangura - Freetown	Entebbe, UG	$ 1,200.00	$ 43.00				$ 1,243.00
Sub-Total:							**$ 4,972.00**

Lodging & Meals and Incidental Travel Expenses (M&IE)

Location	Lodging No of Nights	Lodging Per Day	M&IE Days	M&IE Rate	Subtotal		Total
Lodging in Entebbe, 1 night, pax4 (2 nig	1	$ 144.00			$ 144.00		$ 720.00
Lodging in Jinja district, 6 nights, pax4	6	$ 215.00			$ 1,290.00		$ 5,160.00
Per diem - pax4 - 1 travel day at 75% of Entebbe rate, 1 full day at Entebbe rate, 7 full days at Jinja rate, 1 travel day at 75% of Jinja rate			10	$58 and $74	$ 675.00		$ 2,700.00
					$ -		$ -
Sub-Total:							**$ 8,580.00**

Other Travel Expenses - ground transportation, fees, insurance etc.

Expense Type	Qty	Rate					Total
Ground transport - pax3 - to/from IAD	6	$ 150.00					$ 900.00
Ground transport/Uganda - car rental (8 days; $100 per day)	8	$ 100.00					$ 800.00
Fuel for the rental car for 8 days	1	$ 590.00					$ 590.00
Visa - Bangura and Miller	2	$ 450.00					$ 450.00
Sub-Total:							**$ 2,740.00**

TOTAL ESTIMATED TRIP COSTS

							TOTAL
TOTAL ESTIMATED TRIP COST							$16,292.00

Travel Authorization Form

TRIP #	
Project/Phase #	AEP CLIN008
Purpose:	Travel to Tbilisi, Georgia to attend the Regional TAP-4 Projevt Workshop
SOW / Task	TD 0 1 - TAP4 Ukraine
Desired Outcome	
Dates, Location	Tbilisi, Georgia - 31 October - 05 November 2015
Travelers:	NAME, POS TION: One of (1. Bradford Brooks, AEP Program Director; 2. Dennis Lee,
Lodging to be Arranged by:	Metabiota
Contract:	AEP

FLIGHT AND TRAIN TICKETS

From:	To:	Airfare Cost	Booking Fee		Subtotal		Total
Name TBD - IAD	Tbilisi, Georgia	$ 1,000.00	$ 43.00		$ 1,043.00		$ 1,043.00
Sub-Total:							**$ 1,043.00**

Lodging & Meals and Incidental Travel Expenses (M&IE)

	Lodging	Lodging	M&IE	M&IE			
Location	No of Nights	Per Day	Days	Rate	Subtotal	-	Total
Lodging - TBD (31 Oct - 05 Nov)	4	$ 236.00			$ 944.00		$ 944.00
Per diem Name TBD (31 Oct 05 Nov 2015)			6	$ 105.00	$ 577.50		$ 577.50
Sub-Total:							**$ 1,521.50**

Other Travel Expenses - ground transportation, fees, insurance etc.

Expense Type	Qty	Rate				-	Total
TBD - transportation to/from IAD	2	$ 100.00					$ 200.00
*Transporation in Tbilisi is not accounted for as it will covered under the CLS contract							$ -
Sub-Total:							**$ 200.00**

TOTAL ESTIMATED TRIP COSTS

TOTAL ESTIMATED TRIP COST							$ 2,764.50

Travel Authorization Form

TRIP #							
Project/Phase #	AEP CLIN008						
Purpose:	Travel to Tbilisi, Georgia to attend the Regional TAP-4 Project Workshop						
SOW / Task	TD 011 - TAP4 Ukraine						
Desired Outcome							
Dates, Location	Tbilisi, Georgia - 31 October - 05 November 2015						
Travelers:	NAME, POSITION	One of (1. Bradford Brooks, AEP Program Director; 2. Dennis Lee, FSU PM; 3. Rachel Campbell, FSU Project Coordinator)					
Lodging to be Arranged by:	Metabiota						
Contract:	AEP						

FLIGHT AND TRAIN TICKETS

From:	To:	Airfare Cost	Booking Fee		Subtotal		Total
Name TBD - IAD	Tbilisi, Georgia	$ 1,000.00	$ 43.00		$ 1,043.00		$ 1,043.00
Sub-Total:							**$ 1,043.00**

Lodging & Meals and Incidental Travel Expenses (M&IE)

Location	Lodging No of Nights	Estimated Lodging Costs Per Day	M&IE Days	M&IE Rate	Subtotal		Total
Lodging - TBD (31 Oct - 05 Nov)	4	$ 236.00			$ 944.00		$ 944.00
Per diem - Name TBD (31 Oct - 05 Nov 2015)			6	$ 105.00	$ 577.50		$ 577.50
Sub-Total:							**$ 1,521.50**

Other Travel Expenses - ground transportation, fees, insurance etc.

Expense Type	Qty	Rate					Total
TBD - transportation to/from AD	2	$ 100.00					$ 200.00
Transportation in Tbilisi is not accounted for as it will covered under the CLS contract							$ -
Sub-Total:							**$ 200.00**

TOTAL ESTIMATED TRIP COSTS

							TOTAL
TOTAL ESTIMATED TRIP COST							$ 2,764.50

Traveler Justification

Bradford Brooks, AEP Program Director, Metabiota Inc.

(b)(6) is traveling to participate in the final workshop, and to support the Ukrainian contingent of scientists who are also participating in this event. Dr. Brooks has previously worked with the Ukrainian delegation on this project, and s the Director of the Acacemic Engagement Partnership, through which Metabiota's portion of the DTRA funded project is being implemented.

(b)(6) **ESU Project Manager, Metabiota, Inc.**
(b)(6) is traveling to participate in the final workshop, and to support the Ukrainian contingent of scientists who are also participating in this event. (b)(6) s the Program Manager for the Academic Engagement Partnership, through which Metabiota's portion of the DTRA funded project is being implemented.

(b)(6) **SU Project Coordinator, Metabiota, Inc.**
is traveling to participate in the final workshop, and :o support the Ukrainian contingent of scientists who are also participating in this event. (b)(6) the Projec: Coordinator for the Academic Engagement Partnership, through which Metabiota's portion of the DTRA funded project is being implemented.

Travel Authorization Form

TRIP #	
Project/Phase #	AEP. TD-016
Purpose:	Travel to Tbilisi, Georgia to attend meetings regarding CBR projects GG-19, GG-20, and GG-27.
SOW / Task	(b)(6) will participate in meetings with US and Georgian collaborators, serving as GIS subject matter experts for the three CBR projects. (b)(6) will also spend time with the Georgian GIS team, focusing on mentoring them through data clean up and analyses for the various projects as well as laying the foundation for future publications based on the data that has been collected (or yet to be collected, depending on the project).
Desired Outcome	The majority of the trip will be spent working with GG scientists on each project. GG-19 objective is to identify work plan for completing ecological niche modeling and historical tularemia mapping to complete previously started efforts. GG-20 objective is to map positive and negative Q-fever data to develop a predictive model. GG-27 will be a kickoff meeting laying out a GIS plan for year 1. UF GIS Tech will be introduced to complete future site visits and support projects as GIS SME with Blackburn.
Dates, Location	Tbilisi, Georgia - 30 January - 06 February 2016
Travelers:	NAME, POSITION 1. (b)(6) Director & Associate Professor, University of
Lodging to be Arranged by:	AEP
Contract:	AEP

FLIGHT AND TRAIN TICKETS

From:	To:	Airfare Cost	Booking Fee		Subtotal		Total
(b)(6) Gainesville, Florida	Tbilisi, Georgia	$ 2,300.00			$ 2,300.00		$ 2,300.00
ainesville, Florida	Tbilisi, Georgia	$ 2,300.00			$ 2,300.00		$ 2,300.00
Sub-Total:							**$ 4,600.00**

Lodging & Meals and Incidental Travel Expenses (M&IE)

Location	Lodging No of Nights	Lodging Per Day	M&IE Days	M&IE Rate	Subtotal		Total
2016	6	$ 236.00			$ 1,416.00		$ 1,416.00
(b)(6) - Per diem (2 travel days, 6 full days)			8	$ 105.00	$ 787.50		$ 787.50
odging 31 Jan 06 Feb 2016	6	$ 236.00			$ 1,416.00		$ 1,416.00
er diem (2 travel days, 6 full days)			8	$ 105.00	$ 787.50		$ 787.50
Sub-Total:							**$ 4,407.00**

Other Travel Expenses - ground transportation, fees, insurance etc.

Expense Type	Qty	Rate					Total
Transportation to airport in FL	4	$ 50.00					$ 200.00
Transportation to/from airport in Tbilisi	4	$ 35.00					$ 140.00
Daily transportaion in Tbilisi (01-05 Feb 2016)	10	$ 10.00					$ 100.00
Sub-Total:							**$ 440.00**

TOTAL ESTIMATED TRIP COSTS

							TOTAL
TOTAL ESTIMATED TRIP COST							$ 9,447.00

From: (b)(6)
To:
Cc:

Subject: [Non-DoD Source] RE: TD-001 Rev B: Cameroon PPE VHF Trng (No Cost PoP Extension)
Date: Friday, May 13, 2016 2:33:35 PM
Attachments: Draft_CTR-AEP-CBEP_TD-001RevB_Cameroon_PPE VHF Training.pdf

(b)(6)

Please find our signed TD attached. We recognize this TD extends our period of performance, but does not change any other components of the previously approved activity.

Best regards,
-Brad

(b)(6)
Deputy Program Director - AEP
Metabiota, Inc.
(b)(6)

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

On 5/13/16, 12:07 PM, "(b)(6)
(b)(6) wrote:

>Please find attached, TD-001 Rev B extending the Period of Performance (PoP) from 30 Apr 2016 to 15 November 2016 at no additional cost.
>
>Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also Cc'd), if you have any technical questions.
>
>Thanks,

(b)(6)
>Program Manager, Academic Engagement Partnership (AEP) Program
>J3CTB/Cooperative Biological Engagement Program
>8725 John J. Kingman Rd
>Ft Belvoir, VA 22060
>W: (b)(6)

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	001	B

4. TD TITLE
PPE Donning and Doffing Biosafety Training and Viral Hemorrhagic Fever Clinical Recognition in Cameroon

5. TOTAL TD ESTIMATE:
HOURS. _____ DOLLARS: $ **$125,975**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE. EMAIL. (b)(6)

8. DESCRIPTION OF TD (NOT TO

This revision extends the Period of Performance (PoP) for TD-001 from 30 Apr 2016 to 15 November 2016 at no additional cost. This PoP extension is to continue providing Personal Protective Equipment (PPE) Donning and Doffing Biosafety Training and Viral Hemorrhagic Fever (VHF) Clinical Recognition Training in Yaoundé, Cameroon. Metabota should coordinate directly with the Technical POCs identified below No changes to the previously approved proposal are required at this time

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV.
$ **$125,975**

12a. CURRENT PERIOD OF PERFORMANCE
16-MAY-2015 – 30 APR 2016

12b. TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE
(b)(6)
Signature
Date: **13 May 2016**

14. REGION
AFRICOM/Cameroon

15. TECHNICAL POINTS OF CONTACT
Cameroon Country Manager:
(b)(6)
AFRICOM Science Manager:
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X
(b)(6)
COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

>Email: (b)(6)
>
>
>
>

This submission of the Monthly Report (Contract Data Requirements List; CDRL A001 encompasses implementation of Academic Engagement Partnership (AEP) program activities in accordance with Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) contract HDTRA1-14-C-0104 for 10/01/15-10/31/15.

Technical Directives

AFRICOM

TD 001 Viral Hemorrhagic Fever (VHF) & Personal Protective Equipment (PPE) Donning and Doffing- Cameroon

Objectives
Increase the capacity for Cameroonian responders to mitigate the hazards posed by emerging outbreak and other biosafety threats through biosafety training in the appropriate techniques for donning and doffing personal protective ensembles.

Period of Performance: 05/16/15 11/06/15
Total Estimated Budget: $125,975.00
Estimated Expenditure: $74,591.00
Technical Direction Status: Approved

Completed Activities

- Metabiota revised training materials in response to DTRA/A&AS comments. The revised training materials were submitted and accepted. The training materials were then sent simultaneously for public affairs approval and translation into French.
- Metabiota filed a Country Clearance Request for the November PPE training event.
- Metabiota drafted and filed a travel authorization request, which was approved.
- Metabiota drafted a CLS form for logistics of the November PPE training event and handed it off to DTRA/A&AS.
- Metabiota DC engaged in regular communications with the overseas personnel to discuss and work through training event logistics.
- Metabiota drafted letters to the US Embassy and Cameroon Ministry of Defense for DTRA to assist with obtaining information for Leahy vetting.

Upcoming Activities

- PPE training event slated for November is likely to be postponed. Metabiota will work with DTRA to identify alternative dates once Leahy vetting is completed.
- Metabiota is reviewing CLS-translated training materials for accuracy.

Challenges
MinDef has said no additional information will be provided on participants. DTRA and A&AS are working with US Embassy on the path forward. This will likely result in postponement of training until late January at the earliest.

Detailed Invoice by Technical Directive

TD 001 Viral Hemorrhagic Fever (VHF) & Personal Protective Equipment (PPE) Donning and Doffing- Cameroon

Objectives

Increase the capacity for Cameroonian responders to mitigate the hazards posed by emerging outbreak and other biosafety threats through biosafety training in the appropriate techniques for donning and doffing personal protective ensembles.

Period of Performance: 05/16/15 - 12/31/15

CLIN	Total RQM	Total Invoiced	Total Remaining
1002	$110,048.00	$56,439.04	$53,608.96
1003	$0.00	$0.00	$0.00
1004	$3,080.98	$0.00	$3,080.98
1005	$12,846.10	$0.00	$12,846.10
TOTAL	$125,975.08	$56,439.04	$69,536.04

CLIN 1002 – Labor

Costs for direct labor to support this activity during this period was required for the following personnel:

Program Manager: 50.50 hours

(b)(6) ompleted proposal development, including development of the overall project budget and the drafting of text for both the technical and management approaches. He oversaw development of project plan, led subcontract development, assisted subcontractor understanding of implications of T&M mechanism, and negotiated of labor rates (b)(6) provided overall coordination of the training event, including communications with DTRA A&AS and the subcontractor team in Cameroon.

Trainer 1: 28 hours

(b)(6) ssisted with development subcontractor training deliverables. She developed the project schedule, and prepared Training Event Plans for implementation. She participated in calls with DTRA/A&AS to assist PM in ensuring all relevant information was delivered.

Trainer 2: 217 hours

(b)(6) prepared data for proposal development, to include assisting with the development of the overall training plan and drafting of text for the technical approach. He initiated development of SOWs for subcontractors and ICs. and assisted the PM in coordinating with the subcontractors during the process ensuring compliance with DoD and training requirements.

(b)(6) rovided remote support and on-the-ground support, respectively, for the meeting with Ministry of Defense. He also worked with Program Staff on subcontract development, to include revision and negotiation of SOW and labor rates. providing on-the-ground support in Cameroon for

meeting with the Ministry of Defense and gathering information necessary for the tailoring of training materials.

Trainer 3: 12.5 hours

(b)(6) provided expertise and historical data for proposal development, to include assisting with the development of the overall training plan and drafting of text for the technical approach. She provided integration with other Metabiota training efforts to ensure uniformity across the program.

Scientific Mentor: 24 hours

(b)(6) egan adaptation of the training materials provided by DTRA. In particular (b)(6) began tailoring the VHF training materials to include diseases more likely to be relevant in Cameroon than Azerbaijan. PPE training materials are being similarly addressed, and updated with photographs of the specific PPE that will be used. A draft agenda was developed, and is currently being revised.

CLIN 1003 – Materials and Supplies

No material costs have been incurred.

CLIN 1004 – ODCs

DBA insurance is being acquired for all Metabiota personnel or subcontractors working outside of the United States but this cost has not been finalized or invoiced at this time.

CLIN 1005 – Travel

No travel costs have been incurred at this time.

Metabiota

Invoice:	INV-0000000239	**Invoice End Date**	7/31/15
Invoice Amount	56,439.04	**Invoice Due Date**	2015-10-08
Remit To:		**Bill To:**	
Metabiota,Inc.		Defense Threat Reduction Agency	
1 Sutter Street, Suite 600		8725 John J. Kingman Rd.	
San Francisco		Ft. Belvoir	
CA		VA	
94104		22060-6201	

TD 001 Viral Hemorrhagic Fever (VHF) & Personal Protective Equipment (PPE) Donning and Doffing- Cameroon

Transaction Project ID	PLC Cd	PLC Desc	Name	Bill Hours	Billing Rate	Amount To Bill	Cumulative Hours	Cumulative Amount
[redacted] (b)(4); (b)(6)							[redacted] (b)(4); (b)(6)	
							28.00	3,540.04
							[redacted] (b)(4); (b)(6)	

TD 002 Sample Collection and Diagnostics Training on Middle East Respiratory Syndrome (MERS-Coronavirus) in Camels and Bats - Kazakhstan

Objectives

To advance scientific study and experimentation and increase worldwide knowledge of safe sample collection and laboratory diagnostics through detailed training sessions both in labs and in the field. The training will focus on safe sample collection and laboratory diagnostics for Middle East Respiratory Syndrome (MERS-CoV) in camels and bats supporting enhanced biosafety and biosurveillance efforts in the region.

Period of Performance: 06/01/2015 - 09/30/2015

CLIN 1002 – Labor

TD 002 MERS-COV Training Kazakhstan			
CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$193,010.00	$128,607.70	$64,402.30
1003	$69,578.14	$13,524.01	$56,054.13
1004	$3,062.36	$3,062.10	$0.26
1005	$125,405.36	$41,764.57	$83,640.79
TOTAL	$391,055.86	$186,958.38	$204,097.48

Costs for direct labor to support this activity during this period was required for the following personnel:

Program Manager: 205

Metabiota SEA Program Manager, (b)(6) conducted activities during this time period that included preparation and coordination of the training events to include management of deliverables, logistics, procurement, tracking of project requirements, and implementation of the first training event from 29 July – 5 July 2015. In addition, activities included coordination with Qualified Trainers, in country collaborators, CBEP regional and country personnel, and project team members to ensure CDRL submissions and project requirements were met.

Trainer 1: 364 hours

(b)(6) conducted activities during this time period that included assisting in training coordination and submission of CDRL requirements to CBEP following review of training documents, participating in routine conference calls with Qualified Trainers, and in-country collaborators, procurement of materials and supplies, and logistical support to ensure the training was conducting according to the assigned schedule. Duke NUS Trainers, (b)(6) (b)(6) onducted activities during this time period that included, assisting senior trainers in facilitating the training event, to include adaptation of materials, syllabus input, procurement of materials and supplies, preparation of bat bags for sample collection and, execution of the training event from 29 June – 05 July 2015, during which they provided lecture and practicum training to participants.

Trainer 2: 120 hours

procurement of laboratory materials and supplies, optimization of assays for the laboratory training scheduled later in the year, coordination with in-country partners, and Metabiota personnel to facilitate the June training event. (b)(6) traveled to Kazakhstan to conduct the training course, which included, delivering classroom training and conducting and overseeing field sampling activities, to include facilitation of scientific engagement.

Trainer 3: 124 hours

Duke NUS Trainer 3, (b)(6) raveled to Kazakhstan to conduct the training course, which included, delivering classroom training and conducting and overseeing field sampling activities, to include facilitation of scientific engagement. Trainer (b)(6) provided expertise finalizing training materials.

Research and Data Analyst: 83 hours

Metabiota Research and Data Analyst, (b)(6) was brought into this project following recognition that the short time frame required for execution of the event, and that meeting all deliverables to successfully implement the training would require additional project coordination support. (b)(6) hours were reduced on the project to allow her more time to focus on the PACOM regional baseline analysis, and this provided a cost savings to the Government by utilizing an employee billable at a lower rate. (b)(6) has conducted activities during this time period that include overall project coordination supporting travel for project personnel, review and submission of deliverables, project scheduling, establishing routine communications with trainers and in-country partners as well as tracking deliverables, and routine administrative support.

CLIN 1003 – Materials and Supplies

Materials and supplies costs were incurred during this period to support the field surveillance training and BSL2 laboratory practices event held in Almaty, Kazakhstan from 29 June – 05 July 2015. Materials and supplies were procured locally by TMC and by Metabiota personnel. Materials and supplies purchased at this time included field supplies, such as GPS, lanterns, rechargeable batteries, flashlights, field chairs and tables, and headlamps. Other supplies included consumables such as pipettes, pipette tips, tubes and holders, sharp boxes, gloves, and tape. Additional supplies procured included materials for transport and storage of collected samples, PPE, and decon materials such as biohazard bags, sharps containers, etc. In accordance with contract compliance, costs incurred for unforeseen customs clearance fees were not billed to the Government. These costs were absorbed by Metabiota in order to successfully execute the training in the short suspense required. Once the team was on the ground and conducted the pre-site assessments, it was determined that additional materials and supplies were necessary to ensure safety was maintained during sampling activities. These materials included a ladder to access the site, safety harnesses, additional PPE, and decon supplies. Additional materials procured were necessary to maintain personal safety for all participants throughout the field sampling events.

In addition, costs were incurred for fit testing services and local procurement services. This was required to fit N95 masks on all trainees participating in the field sampling portion of the event. Fit testing services were provided by local contractor TMC, and supported the technical implementation provided by (b)(6) of Metabiota.

CLIN 1004 – ODCs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance was purchased for Duke NUS trainers supporting this activity for the entire period of

performance, as they are based in Singapore. This insurance also covered their travel to Almaty, Kazakhstan in support of the June-July training event.

CLIN 1005 – Travel

Travel expenses incurred during this period are for costs to support execution of the field surveillance training conducted in Almaty, Kazakhstan from 29 June to 5 July. Costs include airfare, per diem, hotel, and transportation costs for (b)(6) eputy Director of the AEP program and (b)(6) Southeast Asia Program Manager to oversee and execute implementation of the training.

Additional costs incurred were for the airfare, per diem, hotel, and transportation to support the six Qualified Trainers traveling from Duke NUS to conduct training activities for this effort.

Metabiota

Invoice:	INV-0000000239	**Invoice End Date**	7/31/15
Invoice Amount	186,958.37	**Invoice Due Date**	2015-10-08
Remit To:		**Bill To:**	
Metabiota,Inc.		Defense Threat Reduction Agency	
1 Sutter Street, Suite 600		8725 John J. Kingman Rd.	
San Francisco		Ft Belvoir	
CA		VA	
94104		22060-6201	

TD 002 Sample Collection and Diagnostics Training on Middle East Respiratory Syndrome (MERS-Coronavirus) in Camels and Bats - Kazakhstan

[redacted]

(b)(4); (b)(6)

CLIN 1005 TOTAL	$ 41,764.57	$ 41,764.57
TOTAL INVOICE	$ [illegible]	$ [illegible]

Print this page for your records.

Order Placed: June 10, 2015
Amazon.com order number: 115-2661820-9982660
Order Total: $473.85

Shipped on June 12, 2015

Items Ordered — **Price**

15 of: *Black Diamond Spot Headlamp (Mars Red)* — $31.59
Sold by: Great Outdoors Depot (seller profile)

Condition: New

Shipping Address:
(b)(6)
8757 GEORGIA AVE STE 800
SILVER SPRING, MD 20910-3742
United States

Shipping Speed:
Standard

Item(s) Subtotal:	$473.85
Shipping & Handling:	$0.00
Total before tax:	$473.85
Sales Tax:	$0.00
Total for This Shipment:	**$473.85**

Payment information

Payment Method:
American Express | Last digits: 1436

Billing address
(b)(6)
8757 Georgia Ave
Suite 800
Silver Spring, MD 20910
United States

Item(s) Subtotal:	$473.85
Shipping & Handling:	$0.00
Total before tax:	$473.85
Estimated tax to be collected:	$0.00
Grand Total:	**$473.85**

Credit Card transactions
American Express ending in 1436: June 12, 2015: $473.85

473.85
435.18
140.72
1,049.75

TD-002 Materials 1

Print this page for your records

Order Placed: June 10, 2015
Amazon.com order number: 115-2554967-1304267
Order Total: $435.18

Shipped on June 12, 2015

Items Ordered	Price
1 of: *Garmin GPSMAP 62 Handheld GPS Navigator* Sold by: SpddyS LLC (seller profile) Condition: New	$279.00
4 of: *eneloop 4-Position Ni-MH Rechargeable Battery Charger (white)* Sold by: Amazon.com LLC Condition: New	$7.80
2 of: *Panasonic Advanced Individual Cell Battery Charger with eneloop AA New 210C Cycle Rechargeable Batteries, 4 Pack, White, PANASONIC* Sold by: Amazon.com LLC Condition: New	$16.99
2 of: *Supernova 300 Lumens Ultra Bright LED Camping and Emergency Lantern* Sold by: Amazon.com LLC Condition: New	$26.97
3 of: *UltraFire? 7W 300LM Mini CREE LED Flashlight Torch Adjustable Focus Zoom Light Lamp* Sold by: MAN GO (seller profile) Condition: New	$5.99

Shipping Address:
(b)(6)
8757 GEORGIA AVE STE 800
SILVER SPRING, MD 20910-3742
United States

Shipping Speed:
Standard Shipping

Item(s) Subtotal:	$416.09
Shipping & Handling:	$11.45
Total before tax:	$427.54
Sales Tax:	$7.64
Total for This Shipment:	**$435.18**

Payment information

Payment Method:
American Express | Last digits: 1436

Billing address
(b)(6)
8757 Georgia Ave
Suite 800
Silver Spring, MD 20910

Item(s) Subtotal:	$416.09
Shipping & Handling:	$11.45
Total before tax:	$427.54
Estimated tax to be collected:	$7.64
Grand Total:	**$435.18**

TD - 002 materials 1a

Print this page for your records.

Order Placed: June 10, 2015
Amazon.com order number: 115-2789267-1332216
Order Total: $140.72

Shipped on June 10, 2015

Items Ordered	**Price**
4 of: *eneloop (3rd gen) AAA 1800 cycle, Ni-MH Pre-Charged Rechargeable Batteries, 12 Pack (discontinued by manufacturer)* Sold by: 1 Deals (seller profile) Condition: New	$35.18

Shipping Address:
(b)(6)
8757 GEORGIA AVE STE 800
SILVER SPRING, MD 20910-3742
United States

Shipping Speed:
Standard

Item(s) Subtotal:	$140.72
Shipping & Handling:	$0.00
Total before tax:	$140.72
Sales Tax:	$0.00
Total for This Shipment:	**$140.72**

Payment information

Payment Method:
American Express | Last digits: 1436

Billing address
(b)(6)
8757 Georgia Ave
Suite 800
Silver Spring, MD 20910
United States

Item(s) Subtotal:	$140.72
Shipping & Handling:	$0.00
Total before tax:	$140.72
Estimated tax to be collected:	$0.00
Grand Total:	**$140.72**

Credit Card transactions	
American Express ending in 1436: June 10, 2015:	$140.72

TD-002 materials 1b

Invoice Template

Name of Organization: TMC
Address: 6001 Indian School Rd. NE, Suite 190 Albuquerque, NM 87110
Date: 7/24/2015
Subcontract Number:

ATTN: invoices@metabiota.com
Metabiota Inc.

Attn: Accounts Payable
1 Sutter Street, Suite 600
San Francisco, CA 94104

Project Name: June Training Event in Almaty, KZ

Deliverable and Period of Performance Covered by this Invoice: 6/19/2015 – 7/15/2015

Total Amount Due: $12,499.91 - Invoicing 11,797.22

The undersigned hereby certifies that the amount being invoiced represents only those amounts properly payable in accordance with the terms and conditions of the Subcontract Agreement and th

(b)(6)

By:

(Signature)

Payment should be remitted to (provide details for ACH or Wire Transfer)

Payments shall be made in US Dollars via ACH or Wire to:
Bank Name: First National Rio Grande
Bank Address: 2011 Mountain Rd NW Albuquerque, NM 87104
Account Holder: Technology Management Co
Account No: 0008558124
ABA Routing No: 107000440

Not billable $702.69

Prime Contractor Program Manager:

Approved: _____ _____

TD-002 Materials 2

ID: 10

Standard Form 1034
Revised October 1987
Department of the Treasury
I TFM 4-2000

PUBLIC VOUCHER FOR PURCHASES AND SERVICES OTHER THAN PERSONAL

VOUCHER NO.
META1509-00-001

U. S. DEPARTMENT, BUREAU, OR ESTABLISHMENT AND LOCATION
METABIOTA, Inc.
Attention Accounts Payable
1 Sutter Street
Suite 600
San Francisco, CA 94104
United States

DATE VOUCHER PREPARED
Jul 24,2015

CONTRACT NUMBER AND DATE
Jun 19,2015

REQUISITION NUMBER AND DATE
2015-09-PD

SCHEDULE NO.

PAID BY

PAYEE'S NAME AND ADDRESS
Technology Management Co.
6001 Indian School Road NE
Suite 190
Albuquerque, NM 87110
United States

✓ @ 7/24/15
✓ #1044

DATE INVOICE RECEIVED

DISCOUNT TERMS
NET 30

PAYEE'S ACCOUNT NUMBER

SHIPPED FROM | TO | WEIGHT

GOVERNMENT B/L NUMBER

NUMBER AND DATE OF ORDER	DATE OF DELIVERY OR SERVICE	ARTICLES OR SERVICES (Enter description, item number of contract or Federal supply schedule, and other information deemed necessary)	QUANTITY	UNIT PRICE COST	UNIT PRICE PER	AMOUNT (1)
	From Jun 19,2015 To Jul 15,2015	Billing POC: Kelcy Clark 505-503-2792 or kclark@tmcgps.com				
(Use continuation sheet(s) if necessary)		(Payee must NOT use the space below)			TOTAL	$12,499.91

PAYMENT:
- ☐ PROVISIONAL
- ☐ COMPLETE
- ☐ PARTIAL
- ☐ FINAL
- ☐ PROGRESS
- ☐ ADVANCE

APPROVED FOR: =$
EXCHANGE RATE: =1.00
DIFFERENCES
BY2
TITLE
Amount verified; correct for payment
(Signature or initials)

Pursuant to authority vested in me, I certify that this voucher is correct and proper for payment.

7/24/15
(Date)

(b)(6)

(b)(6)

ACCOUNTING CLASSIFICATION

PAID BY

CHECK NUMBER | ON ACCOUNT OF U.S. TREASURY | CHECK NUMBER | DI (Name of Bank)

CASH $ | DATE | PAYEE 3

1 When stated in foreign currency, insert name of currency.
2 If the ability to certify and authority to approve are combined in one person, one signature only is necessary; otherwise the approving officer will sign in the space provided, over his official title.
3 When a voucher is receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example, "John Doe Company, per John Smith, Secretary", or "Treasurer", as the case may be.

PER
TITLE

Previous edition usable

NSN 7540-00-000-2234

PRIVACY ACT STATEMENT

The information requested on this form is required under the provisions of 31 U.S.C. 82b and 82c, for the purpose of disbursing Federal money. The information requested is to identify the particular creditor and the amounts to be paid. Failure to furnish this information will hinder discharge of the payment obligation.

TD-002 materials 24

TMC
GLOBAL PROFESSIONAL SERVICES

Billing Number:	META1509-00-001	Project Number:	METABIOT.001	Billing Currency:	USD
Invoice Number:	10009217	Project Name:	META1509	Invoice Date:	07/24/2015

Non-Labor Supporting Schedule

Group Description: TOTAL OTH. DIR. COST

Description	Transaction	JE No / Vchr No	Current FY/Pd	Vendor	Invoice ID	Current Amount	Cumulative Amount
Line Description:	Conf Materials						
Conf Materials	Conference Materials	10122289	2015/7	Mediland LLP	2655	$400.80	
Dosing device | 20 - 200mkl | single channel | -20 - +40C | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122289	2015/7	Mediland LLP	2655	400.80	
Dosing device | Proline | single channel | 2 - 20mkl -20 - +40C| MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122289	2015/7	Mediland LLP	2655	38.28	
Pipette tips 02-10 ul (1 box | 1000 pcl in a box)| MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122289	2015/7	Mediland LLP	2655	23.13	
Pipette tips 2-200ul (1 box | 1000 pcl in a box)| MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122289	2015/7	Mediland LLP	2655	10.49	
50ml Falcon tube with cover | 25 pcs| (BD USA) | | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122289	2015/7	Mediland LLP	2655	0.68	
Glass slides 50 units in a pack | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122290	2015/7	Mediland LLP	516	172.71	
BD Vacutainer SST|| Advance | BD Hemogard 8.5 | 16*100mm | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122290	2015/7	Mediland LLP	516	164.49	
BD Vacutainer Flashback Needle 21G*1 (0.8*25mm) | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122291	2015/7	Visa Med Plus LLP	133	845.69	
GMP-21 Printer in set by Brady Corporation | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122292	2015/7	Office Dom KZ	18458	68.99	
Safety Glass GS transparent | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122292	2015/7	Office Dom KZ	18458	16.98	
Paper towel | 3 layers | Ruta | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122292	2015/7	Office Dom KZ	18458	15.10	
Plastics sheets A4 | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122292	2015/7	Office Dom KZ	18458	11.59	
Paper towel | 2 layers | Ruta | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122292	2015/7	Office Dom KZ	18458	9.49	
Clipboard A4 | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122293	2015/7	Korgan Center LLP	1277	384.27	
12 folding chairs Fait (83x53x44) 3.3kg | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122293	2015/7	Korgan Center LLP	1277	170.78	
2 tables Coleman Folding 8 (152x76x71) 5.7 kg | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122293	2015/7	Korgan Center LLP	1277	68.32	
Cooler Coleman Ball handle 26 L | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122293	2015/7	Korgan Center LLP	1277	7.23	
3 ice packs EZETIL-ICE-AKKU-440-2-GEL (2X400) | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122384	2015/7	ECOS Company	746	87.48	
Respirators FFP2 ECOS PO1202 | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122384	2015/7	ECOS Company	746	84.24	
Respirators FFP3 ECOS PO 1203 F | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122385	2015/7	BioHimPribor LTD	176	435.05	
Cryotubes 2ml | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122385	2015/7	BioHimPribor LTD	176	250.20	
Disposable sleeves | MERS training in Almaty | June 29-July 3 / 2015							

TD 002 materials · 26

TMC
GLOBAL PROFESSIONAL SERVICES

Billing Number:	META1509-00-001	Project Number:	METADIOT.001	Billing Currency:	USD
Invoice Number:	10009217	Project Name:	META1500	Invoice Date:	07/24/2015

Group Description: TOTAL OTH. DIR. COST

Description	Transaction	JE No./ Vchr No.	Current FY/Pd	Vendor	Invoice ID	Current Amount	Cumulative Amount
Line Description:	Conf Materials						
Conf Materials	Conference Materials	10122385	2015/7	BioHimPribor LTD	176	139.65	
Nitril powderfree gloves (medium) | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122385	2015/7	BioHimPribor LTD	176	139.65	
Nitril powderfree gloves (large) | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122385	2015/7	BioHimPribor LTD	176	139.63	
Nitril powderfree gloves (small) | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122385	2015/7	BioHimPribor LTD	176	43.83	
1-200mkl pipette tips with filter | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122385	2015/7	BioHimPribor LTD	176	41.09	
Glass slides frosted | 76x26mm | 50pc in pack | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122385	2015/7	BioHimPribor LTD	176	34.01	
Latex powdered gloves - XS | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122385	2015/7	BioHimPribor LTD	176	9.40	
Needles 27G | 100pcs in a box | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122388	2015/7	VELD LLP	1386	286.21	
Medical PP suit (XXL) | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122388	2015/7	VELD LLP	1386	281.28	
Medical PP suit (XL) | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122388	2015/7	VELD LLP	1386	277.17	
Medical PP suit (Large) | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122388	2015/7	VELD LLP	1386	250.02	
N95 respirators FFP3 | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122388	2015/7	VELD LLP	1386	81.15	
N95 respirators | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122388	2015/7	VELD LLP	1386	20.56	
Nitril powderfree gloves (small) | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122388	2015/7	VELD LLP	1386	20.55	
Nitril powderfree gloves (medium) | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122388	2015/7	VELD LLP	1386	20.56	
Nitril powderfree gloves (large) | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122388	2015/7	VELD LLP	1386	15.35	
Latex powered gloves (medium) | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122388	2015/7	VELD LLP	1386	10.42	
PE Sleeves | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122388	2015/7	VELD LLP	1386	7.68	
Latex powered gloves (large) | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122389	2015/7	VELD LLP	1403	71.22	
Holder 4-way rack PP for tubes (4) 50ml;(12) 15ml; (32) 0,5-1,5ml | size 174?05?52mm | autoclaved | (USA) | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122389	2015/7	VELD LLP	1403	47.15	
Plastic tubes holder - (30) 15ml, (20) 50ml / size 207 171 61 / autoclaved/ (USA) | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122389	2015/7	VELD LLP	1403	40.96	
PP container to transport and storage of bio samples| 2000ml| 169x154mm | autoclaved | with handle| made in Italy | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122389	2015/7	VELD LLP	1403	33.62	
Cardbox container for medical wastes| 2,5L | made in Russia | MERS training in Almaty | June 29-July 3 / 2015							

TD-002 Materials 2C

TMC
GLOBAL PROFESSIONAL SERVICES

Billing Number:	META1509-00-001	Project Number:	METARIOT.001	Billing Currency:	USD
Invoice Number:	10009217	Project Name:	META1509	Invoice Date:	07/24/2015

Group Description: TOTAL OTH. DIR. COST

Description	Transaction	JE No./ Vchr No.	Current FY/Pd	Vendor	Invoice ID	Current Amount	Cumulative Amount
Line Description:	Conf Materials						
Conf Materials	Conference Materials	10122389	2015/7	VELO LLP	1403	19.34	
PE SHARP BOXES, to collect used not disposable instruments | 1.5l Italy | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122389	2015/7	VELO LLP	1403	17.48	
PE SHARP BOXES | to collect used not disposable instruments | 1l Italy | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122389	2015/7	VELO LLP	1403	10.76	
Biohazard bag 700x800mm | class A | B | white | yellow | with clip and lable (Russia) | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122389	2015/7	VELO LLP	1403	7.53	
Biohazard bag 330x600mm | class A | B | C | D | RED | with clip and lable (Russia) | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122389	2015/7	VELO LLP	1403	2.86	
Marker to write on plastic | blue | Germany | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122389	2015/7	VELO LLP	1403	2.15	
Biohazard bag 330x300mm | class B | Yellow | with clip and lable (Russia) | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122389	2015/7	VELO LLP	1403	0.54	
Pencils to write on glass | red | blue | Russia | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122389	2015/7	VELO LLP	1403	0.26	
Flagging tape 13x24mm | working environment from -196C +120C | Italy | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122434	2015/7	Welding Company	10000000875	294.23	
Ladder 7m | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122435	2015/7	Korgan Center LLP	146	72.62	
AA batteries (rechargeable) | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122435	2015/7	Korgan Center LLP	146	20.36	
Repellent | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122435	2015/7	Korgan Center LLP	146	7.00	
Ice pack | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122435	2015/7	Korgan Center LLP	146	6.98	
Tent stakes | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122441	2015/7	Victoria Silantieva	10122441	57.48	
Reimbursement to V Silantieva for First Aid kit for 20 people | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122443	2015/7	Victoria Silantieva	10122443	321.00	
Reimbursement to V Silantieva for purchasing Red Fox carabine / descender | seat harness / rope | for the MERS training June 29 - July 3 | 2015							
Conf Materials	Conference Materials	10122444	2015/7	Victoria Silantieva	10122444	3.84	
Reimbursement to V Silantieva for purchasing masking tape | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122445	2015/7	Victoria Silantieva	10122445	14.58	
Reimbursement to V Silantieva for purchasing Ziplock packages and timer | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122447	2015/7	Victoria Silantieva	10122447	63.24	
Reimbursement to V Silantieva for purchasing cutting boards | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122527	2015/7	Victoria Silantieva	10122527	80.69	
Reimbursement to V Silantieva for purchasing lifting rope for MERS training in Almaty | June 29 July 3 / 2015							
Conf Materials	Conference Materials	10122528	2015/7	Victoria Silantieva	10122528	0.18	
Reimbursement to V Silantieva for purchasing cotton pads | MERS training in Almaty | June 29-July 3 / 2015							

TD-002 Materials 2B

TMC
GLOBAL PROFESSIONAL SERVICES

Billing Number:	META1508-00-001	Project Number:	METABIOT.001	Billing Currency:	USD
Invoice Number:	10009217	Project Name:	META1509	Invoice Date:	07/24/2015

Group Description: TOTAL OTH. DIR. COST

Description	Transaction	JE No./ Vchr No	Current FY/Pd	Vendor	Invoice ID	Current Amount	Cumulative Amount
Line Description:	Conf Materials						
Conf Materials	Conference Materials	10122529	2015/7	Victoria Silantieva	10122529	18.68	
Reimbursement to V Silantieva for purchasing medicine for 1st aid kit | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122531	2015/7	Ramstor Almaty	10122531	34.26	
Batteries Duracell ultra | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122531	2015/7	Ramstor Almaty	10122531	13.05	
Spray bottle | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122531	2015/7	Ramstor Almaty	10122531	0.49	
Glass box for slides | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122531	2015/7	Ramstor Almaty	10122531	3.21	
Liquid Soap | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122531	2015/7	Ramstor Almaty	10122531	0.85	
Bleach | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122538	2015/7	Ramstor Almaty	837	48.94	
Spray bottles | Bleach | Garbage bags (thick) | Drippan | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122540	2015/7	Victoria Silantieva	69	66.24	
Reimbursement to V Silantieva for purchasing bat's nets | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122541	2015/7	BAUMARKT, LLP	20000001	174.00	
Ladder 5m | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122542	2015/7	Apteka #2	357	41.09	
Liquid soap and sanitizers | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122670	2015/7	KDC-Almaty	1718	113.40	
Latex powered gloves (s/m/l) 15 boxes | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122694	2015/7	Korgan Center LLP	164	181.54	
Cooler Coleman XTREMC 70QT 66l							
Conf Materials	Conference Materials	10122694	2015/7	Korgan Center LLP	164	96.45	
Cooler Coleman Poly-tle48QT 45l							
Conf Materials	Conference Materials	10122694	2015/7	Korgan Center LLP	164	24.00	
Cooling element Ezelll- Ice-Akku-440-2-Gel							
Conf Materials	Conference Materials	10122708	2015/7	BioHimPribor LTD	171	48.63	
Scissors - laboratory use | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122708	2015/7	BioHimPribor LTD	171	34.82	
Slide boxes - 100 slides | MERS training in Almaty | June 29-July 3 / 2015							
Conf Materials	Conference Materials	10122708	2015/7	BioHimPribor LTD	171	8.11	
Scissors - general use | MERS training in Almaty | June 29-July 3 / 2015							
Total: Conf Materials						$7,422.64	
Line Description:	Temporary Services						
Temporary Services	Temporary Services	10122813	2015/7	Gulnar Aumoldayeva	35	$99.99	
Payment for Fit Test Services during MERS training in Almaty | June 29-July 3 / 2015							
Total: Temporary Services						$99.99	

TD-002 materials 2E

TMC
GLOBAL PROFESSIONAL SERVICES

Billing Number:	META1509-00-001	Project Number:	METADIO1.001	Billing Currency	USD
Invoice Number:	10009217	Project Name:	META1509	Invoice Date:	07/24/2015

Group Description: TOTAL OTH. DIR. COST

Description	Transaction	JE No./ Vchr No.	Current FY/Pd	Vendor	Invoice ID	Current Amount	Cumulative Amount
Line Description:	Customs Duties						
Customs Duties	Customs Duties	10122523	2015/7	DHL Kazakhstan	270456	527.37	
Preparation of documents for customs clearance (9265457403) for the MERS training June 29 - July 3| 2015							
Customs Duties	Customs Duties	10122524	2015/7	DHL Kazakhstan	4317	8.22	
Preparation of documents for customs clearance (AWB 7515543700) for the MERS training June 29 - July 3| 2015							
Customs Duties	Customs Duties	10122525	2015/7	Ankol Customs Broker LLP	ATB60155	147.10	
Customs clearance for the 2d shipment for the MERS training June 29 - July 3| 2015							
Customs Duties	Customs Duties	10122526	2015/7	Ankol Customs Broker LLP	ATB60167	492.66	
Customs clearance for the 3d shipment for the MERS training June 29 - July 3| 2015							
Customs Duties	Customs Duties	10122664	2015/7	DHL Kazakhstan	270190	27.34	
Preparation of documents for customs clearance (AWB 7515867332) for the MERS training June 29 - July 3| 2015							
Total: Customs Duties						$702.69	
TOTAL OTH. DIR. COST						$8,225.32	$8,225.32

TD-002 Materials 2 F

ace usa

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

Named Insured			Endorsement Number
Metabiota, Inc			010
Policy Symbol: ENI	Policy Number: D37429193 001	Policy Period: December 22, 2014 to December 22, 2015	Effective Date of Endorsement: June 01, 2015
Issued By (Name of Insurance Company): ACE American Insurance Company			

AMENDMENT TO SCHEDULE IN DEFENSE BASE ACT CONTRACT AND/OR PROJECT ENDORSEMENT

This endorsement modifies insurance provided under the following:

DEFENSE BASE ACT WORKERS COMPENSATION AND EMPLOYERS LIABILITY INSURANCE POLICY

The Schedule of the DEFENSE BASE ACT COVERAGE ENDORSEMENT is amended to read as follows:

Schedule

Contract Name/Number/Country(s) or Project Name & Country(s)
In consideration of additional premium charge of $2,345 travel to Kazakhstan from 06/01/2015 to 09/30/2015 under currently scheduled contract is afforded coverage as of the effective date of this endorsement. This travel is completed by Third Country Nationals and coverage is afforded for the same. A rate of $3.50 applied. Payroll of $67,005 is added to the policy. It is further agreed this additional premium charge is fully earned and the minimum earned premium is amended to read $47,247. Policy payroll now totals $1,349,909.

All other terms and conditions of this policy remain unchanged.

TO-002 ODC 7

ace usa

FORMS AND ENDORSEMENTS SUMMARY PAGE

COMPANY NAME:	ACE American Insurance Company		
NAMED INSURED:	Metabiota, Inc		
POLICY NUMBER:	D37429193 001	**DECLARATIONS EFFECTIVE:**	December 22, 2014

This policy consists of the following forms and endorsements attached to this policy at inception:

IT8003	05-2014	Defense Base Act Workers Compensation And Employers Liability Insurance Policy
IT8017	11-2010	Amendment to Schedule in Defense Base Act Contract and/or Project Endorsement

The Coverage Forms and endorsements listed above and attached, complete the above numbered policy

TD-002 ODC 1a

(b)(6)

ITINENTAL.

PACKET

CHARGE:

KZT 403988.92

...rogy Management Compe

326

Room No	0609
Arrival	25-06-15
Departure	05-07 15 01 00 00
Adults / Children	1 / 0
Page No	1 of 1
Cashier No	228 / YKROPANEV

		Debits	Credits
25-06-15	Room&Tax	40,372.86	
26-06-15	Room&Tax	40,372.86	
27-06-15	Room&Tax	40,405.40	
28-06-15	Room&Tax	40,405.40	
29-06-15	Room&Tax	40,405.40	
30-06-15	Room&Tax	40,405.40	
01-07-15	Room&Tax	40,405 40	
02-07-15	Room&Tax	40,405 40	
03-07-15	Room&Tax	40,405 40	
04-07-15	Room&Tax	40,405 40	
04-07-15	American Express XXXXXXXXXXXX2293		403 988 92
	Total	403,988.92	403,988 92

2223089

Balance	0.00	KZT
Total incl. vat	403,988.92	KZT
Total amount NET	360,704.38	KZT
VAT	43,284.54	KZT

...liability for this bill is not waived and agree to be held ... to pay for any part of the full amount of these charges ... agreement wit the issuer.

... under license from IHG Hotels Ltd.

TD-002 Travel 1

2.

Washington Hilton

GO

RE
E
S

] 296.56
] 296.56

Zip-Out Check-Out®

Good Morning. We hope you enjoyed your stay. With Zip-Out Check-Out there is no need to stop at the Front Desk to check out.

- Please review the statement [illegible] your charges [illegible] evening.
- For any charges after you [illegible] was prepared, you may
  - pay at the time of purchase
  - charge purchase to [illegible] account, then pay by the Front [illegible] updated statement
  - or request an updated statement be [illegible] to you within two [illegible]

If the statement [illegible] with your approval, simply press the Zip-Out [illegible] button on your guest room telephone. Your account will be automatically [illegible] and you may use this statement as your receipt. Feel free to leave [illegible] in the room. *Please call the Front Desk if you wish to extend your stay or if you have any questions about your account.*

TD-002 Travel 2

INTERCONTINENTAL
ALMATY

(b)(6)

10d Braddell Hill Apt 06-14
Singapore 579723
DE DESCRIPTION

		Room No.	0611
Company Name	Technology Management Compa	Arrival	26-06-15
Membership No.	PC 313402357	Departure	05-07-15 14 01 09
A/R Number		Adults / Children	1 / 0
Group Code		Page No	1 of 1
INVOICE 287389		Cashier No	338 / TYELEUSSIN

Date	Text	Debits	Credits
26-06-15	Room&Tax	363 616 06	#1981.39
27-06-15	Atrium Bar	2,072.00	
05-07-15	Visa XXXXXXXXXXXX3228		365,688 06
	Total	**365,688.06**	**365,688.06**

Balance	**0.00**	**KZT**
Total incl. vat	**365,688.06**	**KZT**
Folio amount NET	**326,507.19**	**KZT**
VAT	**39,180.87**	**KZT**

Exchange rate 1 USD = 186.20
Balance Due (USD): 1,963.95

Guest Signature: _____

I have received the goods and / or services in the amount shown here I agree that my liability for this bill is not waived and agree to be held personally liable in the event that the indicated person, company, or association fails to pay for any part of the full amount of these charges If a credit card charge, I futher agree to perform the obligations set forth n the cardholder's agreement w t the issuer

This hotel is owned and operated by KTJV JSC «AYT-OTEL» under license from IHG Hotels Ltd.

TD002 Travel 3

InterContinental
ALMATY

(b)(6)

Duke-Nus Graduate Medical School
8 College Rd
Singapore 169857

		Room No	0728
Company Name	Technology Management Compt.	Arrival	27-06-15
Membership No	PC 108879008	Departure	03-07-15 00:00:00
A/R Number		Adults / Children	1 0
Group Code		Page No	1 of 1
INVOICE 287185		Cashier No	317 / AISSAYEVA

Date	Text	Debits	Credits
27-06-15	Room&Tax	40,405.40	
28-06-15	Room&Tax	40,405.40	
29-06-15	Room&Tax	40,405.40	
30-06-15	Room&Tax	40,405.40	
01-07-15	Room&Tax	40,405.40	
02-07-15	Room&Tax	40,405.40	
03-07-15	American Express XXXXXXXXXXX1055		242,432.40
	Total	**242,432.40**	**242,432.40**

$1,334.55

Balance	**0.00**	**KZT**
Total Incl. vat	**242,432.40**	**KZT**
Folio amount NET	**216,457.50**	**KZT**
VAT	**25,974.90**	**KZT**

Exchange rate 1 USD = 186.20
Balance Due (USD): 1,302.00

Guest Signature: _____

I have received the goods and / or services in the amount shown here. I agree that my liability for this bill is not waived and agree to be held personally liable in the event that the indicated person, company or association fails to pay for any part of the full amount of these charges. If a credit card charge, I further agree to perform the obligations set forth in the cardholder's agreement with the issuer.

This hotel is owned and operated by KTJV JSC «AYT-OTEL» under license from IHG Hotels Ltd

- 002 Travel/4

5a $2,223.93
5b 2,001.61
1225.52

INTERCONTINENTAL.
ALMATY

(b)(6)

1 Sutter Street, Suite 600
San Francisco CA 94104
US DESCRIPTION

Company Name Technology Management Compa
Membership No. PC 428968097
A/R Number
Group Code

INTERIM INVOICE 287320

Room No 0632
Arrival 25-06-15
Departure 05-07-15 01:00:00
Adults / Children 1 / 0
Page No 1 of 1
Cashier No 344 / RSIN

Date	Text	Debits	Credits
25-06-15	Room&Tax	40,372.86	
26-06-15	Room&Tax	40,372.86	2,223.93
27-06-15	Room&Tax	40,405.40	
28-06-15	Room&Tax	40,405.40	
29-06-15	Room&Tax	40,405.40	
30-06-15	Room&Tax	40,405.40	
01-07-15	Room&Tax	40,405.40	
02-07-15	Room&Tax	40,405.40	
03-07-15	Room&Tax	40,405.40	
04-07-15	Room&Tax	40,405.40	
04-07-15	American Express XXXXXXXXXXX1055		403,988.92
	Total	403,988.92	403,988.92

Balance	0.00	KZT
Total Incl. vat	403,988.92	KZT
Folio amount NET	360,704.38	KZT
VAT	43,284.54	KZT

Exchange rate 1 USD = 186.20
Balance Due (USD): 2,169.65

Guest Signature: _____

I have received the goods and / or services in the amount shown here. I agree that my liability for this bill is not waived and agree to be held personally liable in the event that the indicated person, company or association fails to pay for any part of the full amount of these charges. If a credit card charge, I further agree to perform the obligations set forth in the cardholder's agreement with the issuer.

This hotel is owned and operated by KTJV JSC «AYT-O.TEL» under license from IHG Hotels Ltd.

TD002 Travel 5 a

InterContinental
ALMATY

(b)(6)

11 Pasir Ris Terrace
Singapore 518655
SG DESCRIPTION

Company Name	Technology Management Compa	Room No.	0634
Membership No.	PC 428967587	Arrival	26-06-15
A/R Number		Departure	05-07-15 14:00:00
Group Code		Adults / Children	1 / 0
INTERIM INVOICE 287319		Page No.	1 of 1
		Cashier No.	344 / RSIN

Date	Text	Debits	Credits
26-06-15	Room&Tax	40,372.86	
27-06-15	Room&Tax	40,405.40	
28-06-15	Room&Tax	40,405.40	
29-06-15	Room&Tax	40,405.40	
30-06-15	Room&Tax	40,405.40	
01-07-15	Room&Tax	40,405.40	
02-07-15	Room&Tax	40,405.40	
03-07-15	Room&Tax	40,405.40	
04-07-15	Room&Tax	40,405.40	
04-07-15	American Express XXXXXXXXXXX1055		363,616.06
	Total	**363,616.06**	**363,616.06**

2001.61

Balance	**0.00**	**KZT**
Total incl. vat	**363,616.06**	**KZT**
Folio amount NET	**324,657.19**	**KZT**
VAT	**38,958.87**	**KZT**

Exchange rate 1 USD = 186.20
Balance Due (USD): 1,952.83

Guest Signature: _____

I have received the goods and / or services in the amount shown here. I agree that my liability for this bill is not waived and agree to be held personally liable in the event that the indicated person, company, or association fails to pay for any part of the full amount of these charges if a credit card charge. I futher agree to perform the obligations set forth in the cardholder's agreement wit the issuer.

This hotel is owned and operated by KTJV JSC «AYT-OTEL» under license from IHG Hotels Ltd.

TD002Trave15 B

a $2001065
b $2001.65
C $2001.65
$6004.95

INTERCONTINENTAL. ALMATY

(b)(6)

3 A Binjai park
Binjai park 589819
SG DESCRIPTION

Company Name	Technology Management Compa	Room No	0630
Membership No	PC 428968084	Arrival	26-06-15
A/R Number		Departure	05-07-15 14:00:00
Group Code		Adults / Children	1 / 0
INTERIM INVOICE 287318		Page No	1 of 1
		Cashier No	344 / RSIN

Date	Text	Debits	Credits
26-06-15	Room&Tax	40,372.86	
27-06-15	Room&Tax	40,405.40	
28-06-15	Room&Tax	40,405.40	
29-06-15	Room&Tax	40,405.40	
30-06-15	Room&Tax	40,405.40	
01-07-15	Room&Tax	40,405.40	
02-07-15	Room&Tax	40,405.40	
03-07-15	Room&Tax	40,405.40	
04-07-15	Room&Tax	40,405.40	
04-07-15	American Express XXXXXXXXXXX1055		363,616.06
	Total	363,616.06	363,616.06

$2,001.65

Balance	0.00	KZT
Total incl. vat	363,616.06	KZT
Folio amount NET	324,657.19	KZT
VAT	38,958.87	KZT

Exchange rate 1 USD = 186.20
Balance Due (USD): 1,952.83

Guest Signature: _____

I have received the goods and / or services in the amount shown here. I agree that my liability for this bill is not waived and agree to be held personally liable in the event that the indicated person, company, or association fails to pay for any part of the full amount of these charges. If a credit card charge, I further agree to perform the obligations set forth in the card holder's agreement with the issuer.

This hotel is owned and operated by KTJV JSC «AYT-OTEL» under license from IHG Hotels Ltd.

TD 002 Travel & 9

InterContinental
ALMATY

(b)(6)

Blk36ob Admiralty dr , # 04-56 Singapore
Admiralty 752360
BR DESCRIPTION

Company Name	Technology Management Compa	Room No.	0614
Membership No.	PC 428967529	Arrival	26-06-15
A/R Number		Departure	05-07-15 14:00:00
Group Code		Adults / Children	1 / 0
INTERIM INVOICE 287317		Page No.	1 of 1
		Cashier No.	344 / RSIN

Date	Text	Debits	Credits
26-06-15	Room&Tax	40,372.86	
27-06-15	Room&Tax	40,405.40	
28-06-15	Room&Tax	40,405.40	
29-06-15	Room&Tax	40,405.40	
30-06-15	Room&Tax	40,405.40	
01-07-15	Room&Tax	40,405.40	
02-07-15	Room&Tax	40,405.40	
03-07-15	Room&Tax	40,405.40	
04-07-15	Room&Tax	40,405.40	
04-07-15	American Express XXXXXXXXXXX1055		363,616.06
	Total	**363,616.06**	**363,616.06**

Balance	**0.00**	**KZT**
Total incl. vat	363,616.06	KZT
Folio amount NET	324,657.19	KZT
VAT	38,958.87	KZT

Exchange rate 1 USD = 186.20
Balance Due (USD): 1,952.83

$2001 65

Guest Signature: _____

I have received the goods and / or services in the amount shown here. I agree that my liability for this bill is not waived and agree to be held personally liable in the event that the indicated person, company or association fails to pay for any part of the full amount of these charges. If a credit card charge, I further agree to perform the obligations set forth in the card holder's agreement with the issuer.

This hotel is owned and operated by KTJV JSC «AYT-OTEL» under license from IHG Hotels Ltd.

TD 002 Travel 6 B

INTERCONTINENTAL.
ALMATY

(b)(6)

214A Ocean drive , 04-19 Bertn by thr cove
Bertn by the cove 098623
SG DESCRIPTION

		Room No	0603
Company Name	Techno ogy Management Compa	Arrival	26-06-15
Membership No.	PC 428968071	Departure	05-07-15 14:00:00
A/R Number		Adults / Children	1 / 0
Group Code		Page No.	1 of 1
INTERIM INVOICE 287316		Cashier No.	344 / RSIN

Date	Text	Debits	Credits
26-06-15	Room&Tax	40,372.86	
27-06-15	Room&Tax	40,405.40	
28-06-15	Room&Tax	40,405.40	
29-06-15	Room&Tax	40,405.40	
30-06-15	Room&Tax	40,405.40	
01-07-15	Room&Tax	40,405.40	
02-07-15	Room&Tax	40,405.40	
03-07-15	Room&Tax	40,405.40	
04-07-15	Room&Tax	40,405.40	
04-07-15	American Express XXXXXXXXXXX1055		363,616.06
	Total	**363,616.06**	**363,616.06**

Balance	**0.00**	**KZT**
Total incl. vat	**363,616.06**	**KZT**
Folio amount NET	**324,657.19**	**KZT**
VAT	**38,958.87**	**KZT**

Exchange rate 1 USD = 186.20
Balance Due (USD): 1,952.83

$2001.65

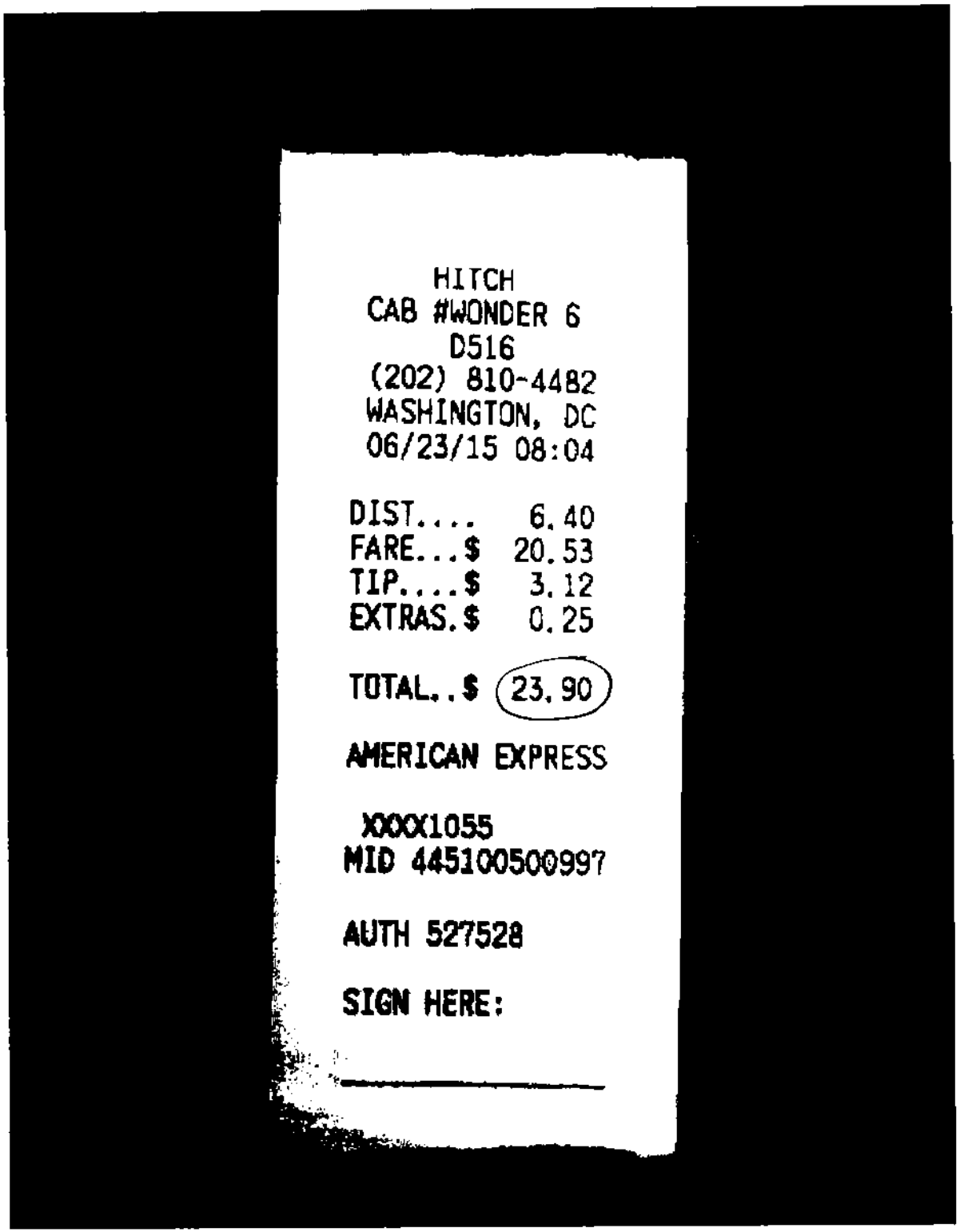
Guest Signature: _____

I have received the goods and / or services in the amount shown here. I agree that my liability for this bill is not waived and agree to be held personally liable in the event that the indicated person, company, or association fails to pay for any part of the full amount of these charges. If a credit card charge, I futher agree to perform the obligations set forth in the cardholder's agreement wit the issuer.

This hotel is owned and operated by KTJV JSC «AYT-OTEL» under license from IHG Hotels Ltd.

TD Travel 002 6 C

TD002 Travel 7



HITCH
CAB #WONDER 6
D516
(202) 810-4482
WASHINGTON, DC
06/23/15 08:04

DIST.... 6.40
FARE...$ 20.53
TIP....$ 3.12
EXTRAS.$ 0.25

TOTAL..$ 23.90

AMERICAN EXPRESS

XXXX1055
MID 445100500997

AUTH 527528

SIGN HERE:



* COPY *
HITCH
CAB #SILVER 699
K198
(202) 810-4482
WASHINGTON, DC
06/22/15 22:26

DIST.... 7.30
FARE...$ 19.45
TIP....$ 3.41
EXTRAS.$ 3.25

TOTAL..$ 26.11

AMERICAN EXPRESS

XXXX1055
MID 445100500997

AUTH 558343

SIGN HERE:

TD 002 Travel 8

Subject: Fwd: Your Monday morning trip with Uber
Date: Monday, June 22, 2015 at 3:53:33 PM East Kazakhstan Time
From: (b)(6)
To:

Sent from my iPhone

Begin forwarded message:

Resent-From: (b)(6)
From: Uber Receipts <receipts.orange.county@uber.com>
Date: June 22, 2015 at 9:58:28 AM CDT
Resent-To: (b)(6)
To: (b)(6)
Subject: Your Monday morning trip with Uber

$77.53



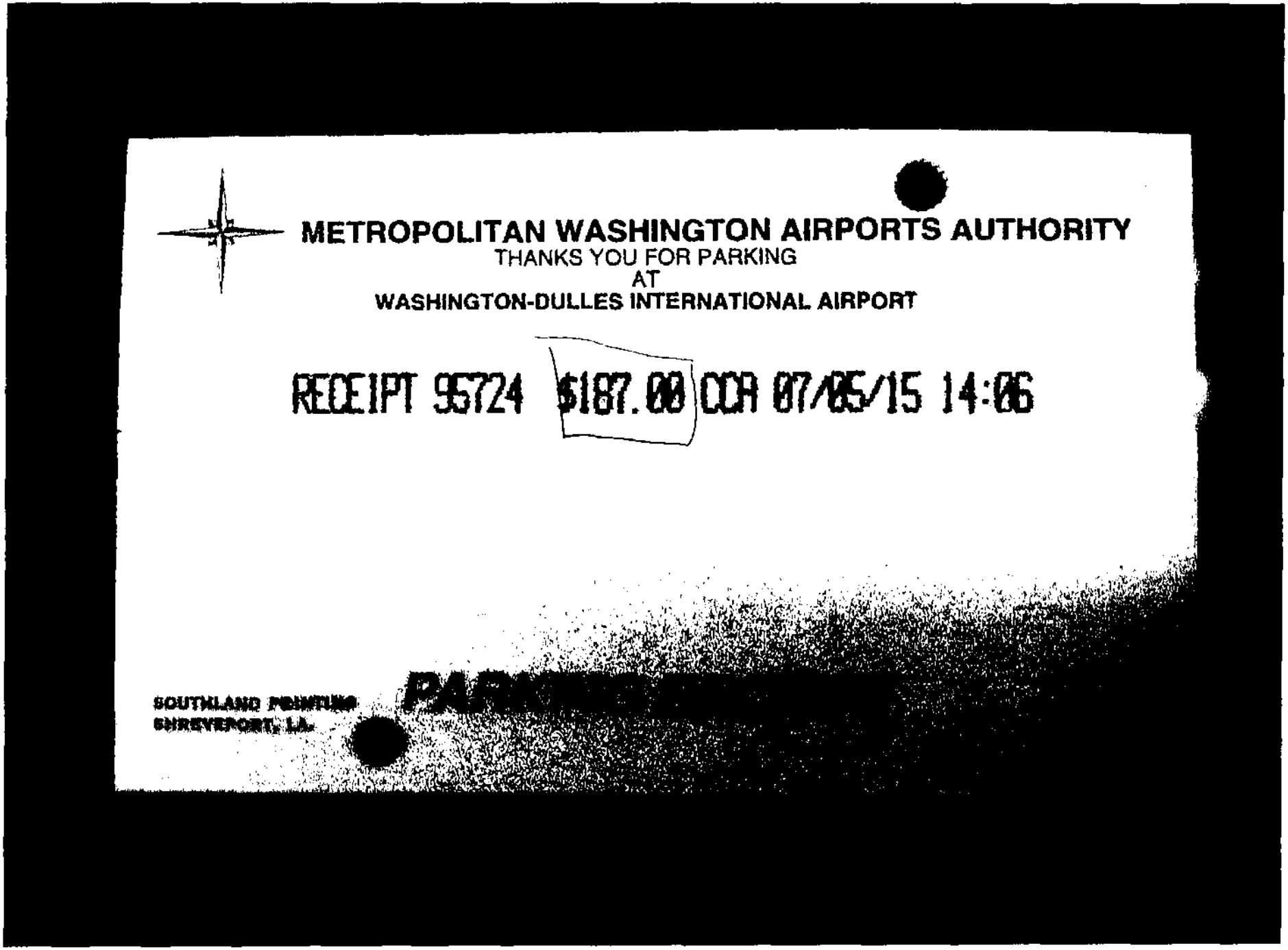
06:34am

07:58am

FARE BREAKDOWN

	0.00
	43.77
	15.10
Normal Fare	**$58.87**
	17.66
Subtotal	**$76.53**
	1.00
	$77.53

TD002Travel 9

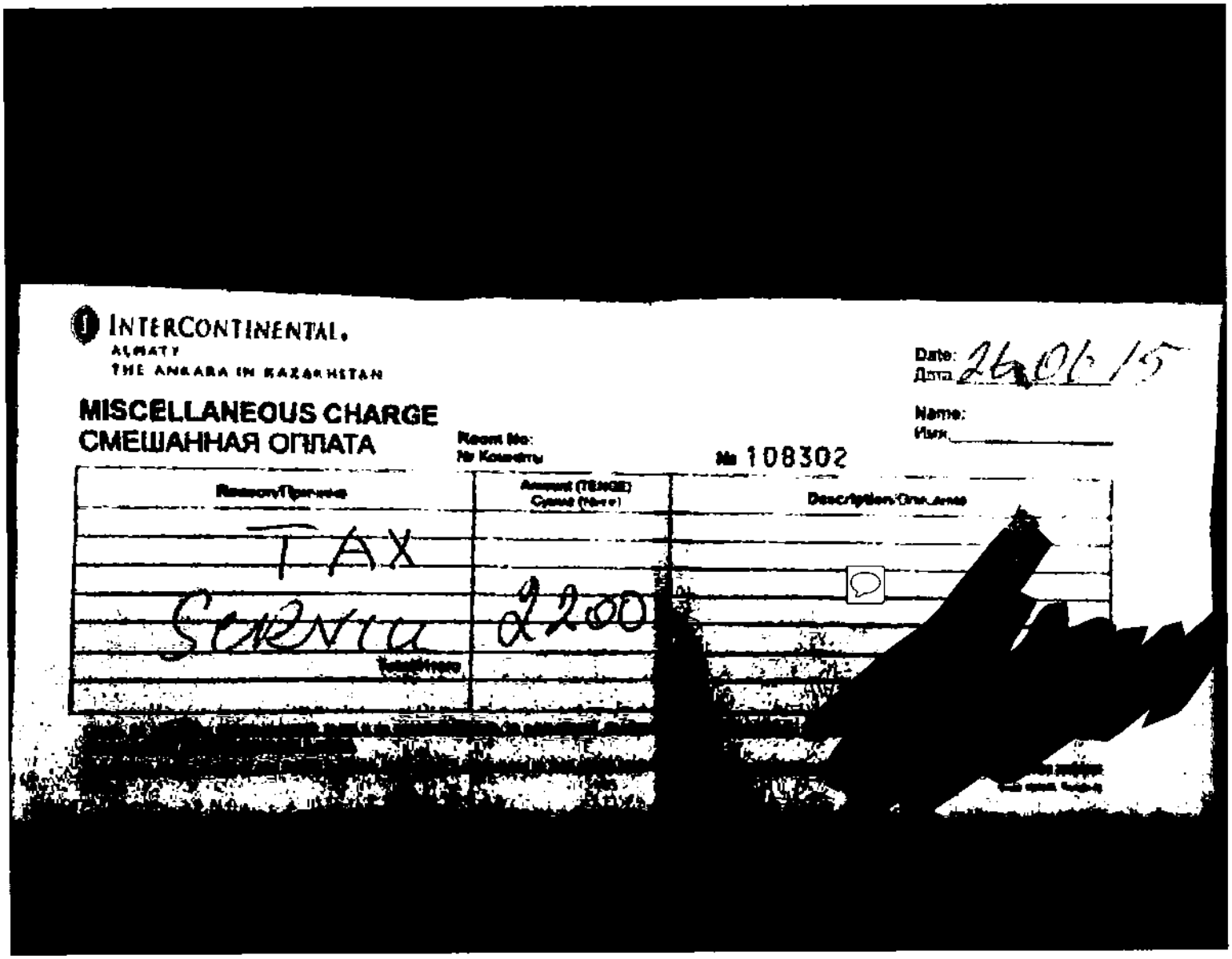


METROPOLITAN WASHINGTON AIRPORTS AUTHORITY
THANKS YOU FOR PARKING
AT
WASHINGTON-DULLES INTERNATIONAL AIRPORT

RECEIPT 95724 $187.00 DCA 07/05/15 14:06

SOUTHLAND PRINTING
SHREVEPORT, LA.

D 002 Travel 10



INTERCONTINENTAL.
ALMATY
THE ANKARA IN KAZAKHSTAN

Date: 24/06/15

MISCELLANEOUS CHARGE
СМЕШАННАЯ ОПЛАТА

Room No:
№ Комнаты

№ 108302

Name:
Имя

Reason/Причина	Amount (TENGE) Сумма (тенге)	Description/Описание
TAX		
Service	2200	

$2,200 KZT = $11.99 USD

x 0.005449 00 exchange rate on 6/26/15

TD 002 Travel 11

TD002 Travel 12

ETIHAD AIRWAYS

**********ELECTRONIC MISCELLANEOUS DOCUMENT 4

X-----

ETIHAD AIRWAYS

PASSENGER RECEIPT

05JUL15 65390430 KZ

ALA GAS /ALMATY

MENDENHALL/IAN HEWITT 4

NOT VALID FOR TRANSPORT PSGR TICKET 6077623303558

C/BAGGAGE

PJLXZN/EY

14 OCU ONE KILOGRAM BAGGAGE 0 ALA AUH EY

14 OCU ONE KILOGRAM BAGGAGE 169442 AUH SIN EY

910 00 169442 [illegible]/3228 000181

NA [illegible]

NA

NA 0 607 8201435740 0

169442

ETIHAD AIRWAYS

** ELECTRONIC **

** MISCELLANEOUS **

** DOCUMENT **

****

6077623303558

WHERE THIS DOCUMENT IS ISSUED FOR TRANSPORTATION OR SVCS OTHER THAN PASSENGER AIR TRANSPORTATION SPECIFIC TERMS AND CONDITIONS MAY APPLY THESE TERMS AND CONDITIONS MAY BE PROVIDED SEPARATELY OR MAY BE OBTAINED FROM THE ISSUING COMPANY OR AGENT

NOT VALID FOR TRAVEL

607 8201435740 0

ТД 002 Travel 13A

ОПЛАТА

$37.62 USD

ОПЛАЧИВАЙТЕ
КАРТОЧКОЙ КАЗКОМА
И ПОЛУЧАЙТЕ
ДО 30% БОНУСОВ
ТЕЛ. 258-51-11,
WWW.KKB.KZ

CITYCAB PTE LTD
SHA8042B

TRIP NO 070612072
START 06/07/2015 12:07
END 06/07 2015 12:27
DISTANCE RUN 20 8 KM

METER FARE $ 16.20
CHANGI AIRPORT$ 3.00
TOTAL FARE $ 19.20

AMOUNT PAID $ 19.20

USD $14.27

COMFORT TAX
SH 6383M

TRIP NO [illegible]
START 26 06
END 26 06 [illegible]
DISTANCE [illegible]

NETS 000005
111655 22000
PURCHASE DEF
UOB GROUP
26 Jun [illegible]
APPROVAL [illegible]
STAN 0492[illegible]

METER FARE :
ADV BOOKIN :
PEAK HOUR :
LATE NIGHT [illegible] :
TOTAL FARE :

FEE(GST INCL :

AMOUNT PAID :

GST M2 [illegible]

APPROVED

USD $33.46

PREMIER
Silver line: 63636888
Premier Taxis Pte Ltd
Reg No. 20 0304975 H

[illegible]
[illegible]
[illegible]
START [illegible]
END [illegible]
Distance [illegible]

METER FARE $[illegible] 26
[illegible] $3 [illegible]
== ======
Total $26 26
Paid Amt $26.25
WEF [illegible] Peak Hr 25[illegible]
With Premier Taxis
Cust Service 6476 [illegible]

USD $19.51

TD002 Travel 13B

14A-D = 189059
14 C = 249020
438079

Date / Дата
/ /
ID / ИД Заказа
№

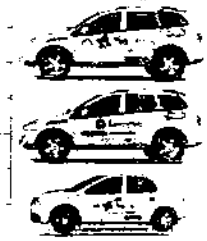
Эко Командир

Complaints and suggestions / Жалобы и предложения

Группа компаний «Эко такси»
г.Алматы, пр. Гагарина, 236 б
Call center : +7 (727) 3900 500
Mobile : +7 777 672 77 77
on-line : www.ecotaxi.kz
e-mail : info@ecotaxi.kz

	Route / Маршрут	Boarding Время посадки	Landing Время высадки
1			
2			
3			
4			
5			
6	Сумма 5000.00		

Данная квитанция выдается только в официальных автомобилях с логотипами компании



Driver's Name / Ф.И.О. водителя
Company / Компания
Ticket acceptable only at official cars with logos
Приложение для выдачи такси ЕСО ТАХИ
Cab driver's signature Подпись водителя / Позывной и № авто
Client's Surname, Name & Signature ФИО клиента, подпись

part of $189.59 taxi expense

Date / Дата
/ /
ID / ИД Заказа
№

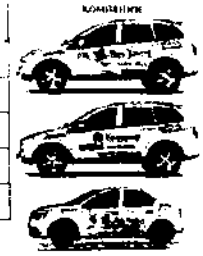
Эко Командир

Complaints and suggestions / Жалобы и предложения

Группа компаний «Эко такси»
г.Алматы, пр. Гагарина, 236 б
Call center : +7 (727) 3900 500
Mobile : +7 777 672 77 77
on-line : www.ecotaxi.kz
e-mail : info@ecotaxi.kz

	Route / Маршрут	Boarding Время посадки	Landing Время высадки
1			
2			
3			
4			
5			
6	Сумма 10.000.00		

Данная квитанция выдается только в официальных автомобилях с логотипами компании



Driver's Name / Ф.И.О. водителя
Company / Компания
Ticket acceptable only at official cars with logos
Приложение для выдачи такси ЕСО ТАХИ
Cab driver's signature Подпись водителя / Позывной и № авто
Client's Surname, Name & Signature ФИО клиента, подпись

part of $189.59 taxi expense

TD002 Travel 14 a

RAHAT PALACE

№ 000132

Date День: 07.07.15

LOW

Cashier Кассир | Manager Менеджер | Guest Signature Подпись Гостя

Total incl. VAT Итого с НДС 1500 Lg

part of $189 59 taxi expense

RAHAT PALACE

N 000133

Date День: 07.07.15

Guest Name Имя Гостя: LOW

Details Показание: H- Intercomy 6002

Cashier Кассир | Manager Менеджер | Guest Signature Подпись Гостя

Total incl. VAT Итого с НДС 1500 Lg

part of $189 59 taxi expense

TD 002 Travel 14b



TAXI CASH PAYMENT RECEIPT

Date (дата) [illegible]

Kind of service (вид услуги):	Amount due (к оплате) [illegible]
1. [illegible]	1
2.	2
3. по городу	3
	Total amount (всего): [illegible]

"TAXI SERVICE"

Driver's name (водитель) [illegible]

Driver's signature (подпись водителя) [illegible]

Attention! This receipt is valid. If the color of the stamp is blue

Внимание! Чек действителен, если цвет штампа синий

ОПЛАЧ

part of $189.59 taxi expense

TO 002 Travel 14 C

NTERCONTINENTAL
LMATY
HE ANKARA N KAZAKHSTAN

Date: 03 07
Дата:

Name:
Имя:

CELLANEOUS CHARGE
ЕШАННАЯ ОПЛАТА

Room No:
№ Комнать

№ 108111

Reason/Причина	Amount (TENGE) Сумма (тенге)	Description/Описание
Total/Итого	6900	

ь не является собственником такси и не ответственность за неудобства, связанные с предоставлением данной услуги. Вызов такси и оплата за услуги
родится непосредственно в отеле.
ervice can be reserved and paid at the hotel, however as it is operated by third parties hotel management cannot be responsible for any failure caused by taxi service providers

part of $189.51 taxi expense

Date / Дата
/ /
d/д m/м y/г
ID / ИД Заказа
№

Эко Командир КОМАНДИР ТАКСИ

Complaints and suggestions / Жалобы и предложения – 0 2 0

Группа компаний такси «Командир», «Эко Такси»
г. Алматы, пр. Гагарина, 236 б
Call center: +7 (727) 3 900 500
Mobile: +7 777 672 77 77
on-line: www.komandir.kz
e-mail: info@komandir.kz

№	Route / Маршрут	Estimated time/ Предварительная заявка	Boarding / Время посадки	Landing / Время высадки
1		:	:	:
2		:	:	:
3		:	:	:
	Остановки / Stops	:	:	
4		:	:	
5		:	:	

Данная квитанция выдается только в официальных автомобилях с логотипами компании



Ticket acceptable only at official cars with logos

Driver's Name / Ф.И.О. водителя

Company / Компания

Cab driver's signature / Подпись водителя / Позывной и № авто

Client's Surname, Name & Signature / Ф.И.О. клиента, подпись

Приложение для вызова такси KOMANDIR.KZ

CONFORT
SCD. SH 248 D
TRIP NO
START 04
END 04.07
DISTANCE
METER FARE $
CHANGE AIRPORT $
TOTAL FARE $
AMOUNT PAID

TD 002 Travel 14D

[illegible]

TRIP N [illegible]
START [illegible]
END [illegible]
DISTANCE RUN [illegible]

METER FARE $ [illegible]
ADV BOOKIN [illegible]
PEAK HOUR [illegible]
LATE NIGHT [illegible]
TOTAL FARE $ [illegible]

AMOUNT P[illegible]

USD $21.75

CITYCAB [illegible]
[illegible]

TRIP NO [illegible]
START [illegible]
END [illegible]
DISTANCE [illegible]

METER [illegible]
[illegible]
TOTAL FARE $ [illegible]

AMOUNT [illegible]

USD $9.49

Date / Дата
[illegible] / [illegible] / [illegible]
d/д m/м y/г
ID / ИП Заказа
№

Эко

Командир

Complaints and suggestions / Жалобы и предложения

Группа компаний «Эко-такси»
г. Алматы, пр. Гагарина, 230 б
Call center +7 (727) 3900 500
Mobile +7 777 [illegible] 77
[illegible] www.ecotaxi.kz
e-mail info@ecotaxi.kz

№	Route / Маршрут	[illegible]	[illegible]
1	[illegible]		
2		[illegible]	
3			
4	[illegible]	[illegible]	
5			
6			

Данная квитанция выдается только в официальных автомобилях с логотипами компании



Driver's Name / Ф.И.О. водителя
[illegible]

Company / Компания
[illegible]

Cab driver's signature / Подпись водителя Позывной и № авто

Client's Surname, Name & Signature / Ф.И.О. клиента, подпись

Ticket acceptable only at official cars with logos

Приложение для вызова такси ЕСО ТАХІ

USD $217.96

TD 002 Travel 14e

Printable Version

ETICKET RECEIPT IS ATTACHED
******** PLEASE REVIEW YOUR ITINERARY CAREFULLY********
DISCREPANCIES MUST BE BROUGHT TO OUR ATTENTION WITHIN 24 HOURS.
AFTER THAT TIME, ANY PENALTIES INCURRED DUE TO CHANGES ARE THE RESPONSIBILITY OF THE TRAVELER.

UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone: (301) 948-2448

METABIOTA@UNIGLOBEKENTLANDS.COM

Passenger(s):	(b)(6)	**Booking Ref.:**	YENQVO
Invoice No.:	69764~69768	**Agent:**	(b)(6)
Issue Date:	Tuesday July 21, 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

- If you would like to view your reservation online Click Here
- For Aircraft Disinsection Requirements Click Here

AIR - Wednesday September 9 2015

Air China Flight CA976 Economy Class

Check In Confirmation: MT3DB6

Depart:	9:35 AM, Wednesday, September 9 Changi Airport-Terminal 1 Singapore, Singapore	**Arrive:**	3:30 PM, Wednesday, September 9 Capital Airport-Terminal 3 Beijing, China
Status:	Confirmed		
Booking Code:	V (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	5 hours 55 minutes	**Seat:**	40C (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

Weather Flight Status *(up to 3 days prior)*

AIR - Wednesday September 9 2015

Hainan Airlines Flight HU7933 Economy Class

Check In Confirmation: MT3DB6

Depart:	7:10 PM, Wednesday, September 9 Capital Airport-Terminal 2 Beijing, China	**Arrive:**	10:30 PM, Wednesday, September 9 Almaty Airport Almaty, Kazakhstan
Status:	Confirmed		
Booking Code:	L (Economy)		
Equipment:	Boeing 737-800	**Stops:**	Non-stop
Duration:	5 hours 20 minutes	**Seat:**	35C (Non smoking, Aisle) Confirmed
Meal:	Dinner		
Remarks:	Not eligible for web check in		

Weather Flight Status *(up to 3 days prior)*

AIR - Saturday September 19 2015

TO 002 Travel 15A

Air Astana Flight KC909 Economy Class

Check In Confirmation: YENQVO

Depart:	1:50 AM, Saturday, September 19 Almaty Airport Almaty, Kazakhstan	**Arrive:**	10:30 AM, Saturday, September 19 Incheon Intl Airport Seoul, Korea
Status:	Confirmed		
Booking Code:	T (Economy)		
Equipment:	Boeing 767	**Stops:**	Non-stop
Duration:	5 hours 40 minutes	**Seat:**	13C (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

Weather | Flight Status (up to 3 days prior)

AIR - Saturday September 19 2015

Asiana Airlines Flight OZ751 Economy Class

Check In Confirmation: YENQVO

Depart:	4:10 PM, Saturday, September 19 Incheon Intl Airport Seoul Korea	**Arrive:**	9:30 PM, Saturday, September 19 Changi Airport-Terminal 3 Singapore, Singapore
Status:	Confirmed		
Booking Code:	S (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 20 minutes	**Seat:**	23D (Non smoking, Aisle) Confirmed
Meal:	Snack or Brunch		
Remarks:	Not eligible for web check in		

Weather | Flight Status (up to 3 days prior) | Dining Reservations

Invoice Details

Transaction / Document		Base	Tax	Total
Air China / 999 7627418380		724 00	192 60	916 60
	Form of Payment	AX XXXXXXXXXXXX1055		
Air Astana / 465 7627418391		588 00	99 57	687.57
	Form of Payment	AX XXXXXXXXXXXX1055		
Processing Fee / 890 0658521053		43 00		43.00
	Form of Payment	AX XXXXXXXXXXXX1055		
	Totals:	1355 00	292 17	USD 1647.17

Total Charged to Credit Card: USD 1647.17

Balance Due: USD 0.00

Fare Rules

- Airline policy - Fare is not guaranteed until ticketed. This ticket is non refundable and non transferable. Changes are subject to fare Upgrade and change fee. Missing your flight without cancellation may result in the forfeiture of the value of your airline ticket.

Baggage Fees & Allowances

Baggage charges may apply. Baggage allowance, specific size and weight restrictions vary between airlines. Please visit the airline's website or contact the airline directly for details.

- Air China or call 1-800-986-1985
- Asiana Airlines or call 1-800-227-4262
- We don't have a link to the airline website for Hainan Airlines, Air Astana. Please go to http://www.kls2.com/airlines/ and click on the website of the airline which you are travelling.

Important Information

- Your reservation number with Air China is MT3DB6.

TD 002 Travel 15 B

Printable Version

ETICKET RECEIPT IS ATTACHED
******** PLEASE REVIEW YOUR ITINERARY CAREFULLY·····
DISCREPANCIES MUST BE BROUGHT TO OUR ATTENTION WITHIN 24 HOURS
AFTER THAT TIME, ANY PENALTIES INCURRED DUE TO CHANGES ARE THE RESPONSIBILITY
OF THE TRAVELER.

UNIGLOBE
Kentlands Travel
UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone. (301) 948-2448

METABOTA@UNIGLOBEKENTLANDS.COM

Passenger(s):	(b)(6)	**Booking Ref.:**	YENTCX
Invoice No.:	69773-69774	**Agent:**	(b)(6)
Issue Date:	Tuesday, July 21 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

- If you would like to view your reservation online. Click Here
- For Aircraft Disinsection Requirements Click Here

AIR - Saturday September 12 2015

Air China Flight CA976 Economy Class

Check In Confirmation: MFGMKY

Depart:	9:30 AM Saturday, September 12 Changi Airport-Terminal 1 Singapore, Singapore	**Arrive:**	3:30 PM, Saturday, September 12 Capital Airport-Terminal 3 Beijing, China
Status:	Confirmed		
Booking Code:	V (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 0 minutes	**Seat:**	46C (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

Weather Flight Status *(up to 3 days prior)*

AIR - Saturday September 12 2015

Hainan Airlines Flight HU7933 Economy Class

Check In Confirmation: MFGMKY

Depart:	7:10 PM Saturday, September 12 Capital Airport-Terminal 2 Beijing, China	**Arrive:**	10:30 PM Saturday, September 12 Almaty Airport Almaty, Kazakhstan
Status:	Confirmed		
Booking Code:	L (Economy)		
Equipment:	Boeing 737-800	**Stops:**	Non-stop
Duration:	5 hours 20 minutes	**Seat:**	37C (Non smoking, Aisle) Confirmed
Meal:	Dinner		
Remarks:	Not eligible for web check in		

Weather Flight Status *(up to 3 days prior)*

AIR - Saturday September 19 2015

TD 002 Travel 16a

× **Air Astana Flight KC909 Economy Class**

Check In Confirmation: YENTCX

Depart:	1:50 AM, Saturday, September 19 Almaty Airport Almaty, Kazakhstan	**Arrive:**	10:30 AM, Saturday, September 19 Incheon Intl Airport Seoul, Korea
Status:	Confirmed		
Booking Code:	T Economy		
Equipment:	Boeing 767	**Stops:**	Non-stop
Duration:	5 hours 40 minutes	**Seat:**	14D (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

Weather | Flight Status (up to 3 days prior)

AIR - Saturday September 19 2015

Asiana Airlines Flight OZ751 Economy Class

Check In Confirmation: YENTCX

Depart:	4 10 PM, Saturday, September 19 Incheon Intl. Airport Seoul, Korea	**Arrive:**	9 30 PM, Saturday, September 19 Changi Airport-Terminal 3 Singapore, Singapore
Status:	Confirmed		
Booking Code:	S (Economy		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 20 minutes	**Seat:**	27B (Non smoking, Aisle) Confirmed
Meal:	Snack or Brunch		
Remarks:	Not eligible for web check in		

Weather | Flight Status (up to 3 days prior) | Dining Reservations

Invoice Details

Transaction / Document		Base	Tax	Total
Air China / 999 7627418396		724 00	192 60	916.60
	Form of Payment	AX XXXXXXXXXXXX1055		
Air Astana / 465 7627418397		588 00	99 57	687.57
	Form of Payment	AX XXXXXXXXXXXX1055		
Processing Fee / 890 0658521056		43 00		43.00
	Form of Payment	AX XXXXXXXXXXXX1055		
	Totals:	1355 00	292 17	USD 1647.17

Total Charged to Credit Card: USD 1647.17

Balance Due: USD 0.00

Fare Rules

• Airline policy - Fare is not guaranteed until ticketed. This ticket is non refundable and non transferable. Changes are subject to fare Upgrade and change fee. Missing your flight without cancellation may result in the forfeiture of the value of your airline ticket.

Baggage Fees & Allowances

Baggage charges may apply. Baggage allowance, specific size and weight restrictions vary between airlines. Please visit the airline's website or contact the airline directly for details

- Air China or call 1-800-986-1985
- Asiana Airlines or call 1-800-227-4262
- We don't have a link to the airline website for Hainan Airlines, Air Astana. Please go to http://www.kls2.com/airlines/ and click on the website of the airline which you are travelling

Important Information

• Your reservation number with Air China is MFGMKY.

TD 002 Travel 168

Printable Version

ETICKET RECEIPT IS ATTACHED
******** PLEASE REVIEW YOUR ITINERARY CAREFULLY********
DISCREPANCIES MUST BE BROUGHT TO OUR ATTENTION WITHIN 24 HOURS
AFTER THAT TIME, ANY PENALTIES INCURRED DUE TO CHANGES ARE THE RESPONSIBILITY
OF THE TRAVELER.

UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone (301) 948-2448

METABIOTA@UNIGLOBEKENTLANDS.COM

Passenger(s):	(b)(6)	**Booking Ref.:**	YENSVG
Invoice No.:	69771~69772	**Agent:**	(b)(6)
Issue Date:	Tuesday, July 21 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

- If you would like to view your reservation online Click Here
- For Aircraft Disinsection Requirements: Click Here

AIR - Saturday September 12 2015

Air China Flight CA976 Economy Class

Check In Confirmation: NLJ8CE

Depart:	9:30 AM, Saturday, September 12 Changi Airport-Terminal 1 Singapore, Singapore	**Arrive:**	3:30 PM, Saturday September 12 Capital Airport-Terminal 3 Beijing, China
Status:	Confirmed		
Booking Code:	V (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 0 minutes	**Seat:**	46D (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

Weather · Flight Status *(up to 3 days prior)*

AIR - Saturday September 12 2015

Hainan Airlines Flight HU7933 Economy Class

Check In Confirmation: NLJ8CE

Depart:	7 10 PM, Saturday, September 12 Capital Airport-Terminal 2 Beijing, China	**Arrive:**	10 30 PM, Saturday, September 12 Almaty Airport Almaty, Kazakhstan
Status:	Confirmed		
Booking Code:	L (Economy)		
Equipment:	Boeing 737-800	**Stops:**	Non-stop
Duration:	5 hours 20 minutes	**Seat:**	36C (Non smoking, Aisle) Confirmed
Meal:	Dinner		
Remarks:	Not eligible for web check in		

Weather · Flight Status *(up to 3 days prior)*

AIR - Saturday September 19 2015

TD 002 Travel 17a

× **Air Astana Flight KC909 Economy Class**

Check In Confirmation: YENSVG

Depart:	1:50 AM Saturday, September 19 Almaty Airport Almaty, Kazakhstan	**Arrive:**	10:30 AM, Saturday, September 19 Incheon Intl Airport Seoul, Korea
Status:	Confirmed		
Booking Code:	T (Economy		
Equipment:	Boeing 767	**Stops:**	Non-stop
Duration:	5 hours 40 minutes	**Seat:**	14C (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

Weather · Flight Status (up to 3 days prior) · [illegible]

AIR - Saturday September 19 2015

Asiana Airlines Flight OZ751 Economy Class

Check In Confirmation: YENSVG

Depart:	4:10 PM, Saturday, September 19 Incheon Intl Airport Seoul, Korea	**Arrive:**	9:30 PM, Saturday, September 19 Changi Airport-Terminal 3 Singapore, Singapore
Status:	Confirmed		
Booking Code:	S (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 20 minutes	**Seat:**	26D (Non smoking, Aisle) Confirmed
Meal:	Snack or Brunch		
Remarks:	Not eligible for web check in		

Weather · Flight Status (up to 3 days prior) · Dining Reservations · [illegible]

Invoice Details

Transaction / Document		Base	Tax	Total
Air China / 999 7627418394		724.00	192.60	916.60
	Form of Payment: AX XXXXXXXXXXXX1055			
Air Astana / 465 7627418395		588.00	99.57	687.57
	Form of Payment: AX XXXXXXXXXXXX1055			
Processing Fee / 890 0658521055		43.00		43.00
	Form of Payment: AX XXXXXXXXXXXX1055			
	Totals:	1355.00	292.17	USD 1647.17

Total Charged to Credit Card: USD 1647.17

Balance Due: USD 0.00

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Baggage charges may apply. Baggage allowance, specific size and weight restrictions vary between airlines. Please visit the airline's website or contact the airline directly for details

- Air China or call 1-800-986-1985
- Asiana Airlines or call 1-800-227-4262
- We don't have a link to the airline website for Hainan Airlines, Air Astana. Please go to http://www.kls2.com/airlines/ and click on the website of the airline which you are travelling.

Important Information

• Your reservation number with Air China is NLJ8CE.

TD002 Travel 17B

Printable Version

ETICKET RECEIPT IS ATTACHED
******** PLEASE REVIEW YOUR ITINERARY CAREFULLY********
DISCREPANCIES MUST BE BROUGHT TO OUR ATTENTION WITHIN 24 HOURS.
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UNIGLOBE
Kentlands Travel

UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone: (301) 948-2448

METABIOTA@UNIGLOBEKENTLANDS.COM

Passenger(s):	(b)(6)	**Booking Ref.:**	YENQIQ
Invoice No.:	69769~69770	**Agent:**	(b)(6)
Issue Date:	Tuesday, July 21, 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

- If you would like to view your reservation online Click Here
- For Aircraft Disinsection Requirements: Click Here

AIR - Wednesday September 9 2015

Air China Flight CA976 Economy Class

Check In Confirmation: NZ889E

Depart:	9:35 AM, Wednesday, September 9 Changi Airport-Terminal 1 Singapore, Singapore	**Arrive:**	3:30 PM, Wednesday, September 9 Capital Airport-Terminal 3 Beijing, China
Status:	Confirmed		
Booking Code:	V (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	5 hours 55 minutes	**Seat:**	41D (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

Weather · Flight Status *(up to 3 days prior)*

AIR - Wednesday September 9 2015

Hainan Airlines Flight HU7933 Economy Class

Check In Confirmation: NZ889E

Depart:	7:10 PM, Wednesday, September 9 Capital Airport-Terminal 2 Beijing, China	**Arrive:**	10:30 PM, Wednesday, September 9 Almaty Airport Almaty, Kazakhstan
Status:	Confirmed		
Booking Code:	L (Economy)		
Equipment:	Boeing 737-800	**Stops:**	Non-stop
Duration:	5 hours 20 minutes	**Seat:**	35C (Non smoking, Aisle) Confirmed
Meal:	Dinner		
Remarks:	Not eligible for web check in		

Weather · Flight Status *(up to 3 days prior)*

AIR - Saturday September 19 2015

TD 002 Travel 18a

Air Astana Flight KC909 Economy Class

Check In Confirmation: YENQIQ

Depart:	1:50 AM, Saturday, September 19 Almaty Airport Almaty, Kazakhstan	**Arrive:**	10:30 AM, Saturday, September 19 Incheon Intl. Airport Seoul, Korea
Status:	Confirmed		
Booking Code:	T (Economy		
Equipment:	Boeing 767	**Stops:**	Non-stop
Duration:	5 hours 40 minutes	**Seat:**	13D (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

Weather | Flight Status (up to 3 days prior)

AIR - Saturday September 19 2015

Asiana Airlines Flight OZ751 Economy Class

Check In Confirmation: YENQIQ

Depart:	4:10 PM, Saturday, September 19 Incheon Intl Airport Seoul, Korea	**Arrive:**	9:30 PM, Saturday, September 19 Changi Airport-Terminal 3 Singapore, Singapore
Status:	Confirmed		
Booking Code:	S (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 20 minutes	**Seat:**	26B (Non smoking, Aisle) Confirmed
Meal:	Snack or Brunch		
Remarks:	Not eligible for web check in		

Weather | Flight Status (up to 3 days prior) | Dining Reservations

Invoice Details

Transaction / Document		Base	Tax	Total
Air China / 999 7627418392		724.00	192.60	916.60
	Form of Payment: AX XXXXXXXXXXXX1055			
Air Astana / 465 7627418393		588.00	99.57	687.57
	Form of Payment: AX XXXXXXXXXXXX1055			
Processing Fee / 890 0658521054		43.00		43.00
	Form of Payment: AX XXXXXXXXXXXX1055			
	Totals:	1355.00	292.17	USD 1647.17

Total Charged to Credit Card: USD 1647.17

Balance Due: USD 0.00

Fare Rules

• Airline policy - Fare is not guaranteed until ticketed. This ticket is non refundable and non transferable. Changes are subject to fare Upgrade and change fee. Missing your flight without cancellation may result in the forfeiture of the value of your airline ticket.

Baggage Fees & Allowances

Baggage charges may apply. Baggage allowance, specific size and weight restrictions vary between airlines. Please visit the airline's website or contact the airline directly for details.

- Air China or call 1-800-986-1985
- Asiana Airlines or call 1-800-227-4262
- We don't have a link to the airline website for Hainan Airlines, Air Astana. Please go to http://www.kls2.com/airlines/ and click on the website of the airline which you are travelling.

Important Information

• Your reservation number with Air China is NZ889E

TD 602 Travel · 18B

Printable Version

ETICKET RECEIPT IS ATTACHED
PLEASE REVIEW YOUR ITINERARY CAREFULLY
DISCREPANCIES MUST BE BROUGHT TO OUR ATTENTION WITHIN 24 HOURS
AFTER THAT TIME, ANY PENALTIES INCURRED DUE TO CHANGES ARE THE RESPONSIBILITY
OF THE TRAVELER.

Kentlands Travel

UNIGLOBE Kentlands Travel
60 Market Street Suite 203
Gaithersburg MD 20878
Phone (301) 948-2448

METABIOTA@UNIGLOBEKENTLANDS.COM

Passenger(s):	(b)(6)	**Booking Ref.:**	6VZEZ5
Invoice No.:	68648-68649-68650-68651	**Agent:**	(b)(6)
Issue Date:	Friday June 5, 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

- If you would like to view your reservation online Click Here
- For Aircraft Disinsection Requirements Click Here

AIR - Friday June 26 2015

Singapore Airlines Flight SQ106 Economy Class

Check In Confirmation:
6VZEZ5 *(*48 Hours Prior)*

Depart:	8 30 AM Friday June 26 Changi Airport-Terminal 2 Singapore Singapore	**Arrive:**	9 30 AM, Friday June 26 Kuala Lumpur Intl Arpt Terminal M Kuala Lumpur Malaysia
Status:	Confirmed		
Booking Code:	Y (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	1 hours 0 minutes		
Seat:	41F (Non smoking Aisle) Confirmed - MENDENHALL/IAN HEWITT 41G (Non smoking Aisle) Confirmed - SENA NEVES/ERICA		
Meal:	Meal		

• Weather • Flight Status • Cancel Reservation • Unlink Reservations

AIR - Friday June 26 2015

Air Astana Flight KC936 Economy Class

Check In Confirmation:
6VZEZ5

Depart:	10 55 AM Friday June 26 Kuala Lumpur Intl Arpt Terminal M Kuala Lumpur Malaysia	**Arrive:**	4 55 PM Friday, June 26 Almaty Airport Almaty Kazakhstan
Status:	Confirmed		
Booking Code:	K (Economy)		
Equipment:	Boeing 757	**Stops:**	Non-stop
Duration:	8 hours 0 minutes		
Seat:	31J (Non smoking Aisle) Confirmed - MENDENHALL/IAN HEWITT 31K (Non smoking Aisle) Confirmed - SENA NEVES/ERICA		
Meal:	Meal		
Remarks:	Not eligible for web check in		

TD002Travel 19A

AIR - Sunday July 5 2015

Etihad Airways Flight EY297 Economy Class

Check In Confirmation: PJLXZN

Depart:	5 25 PM Sunday July 5 Almaty Airport Almaty Kazakhstan	**Arrive:**	8 25 PM Sunday July 5 Abu Dhabi Intl Airport-Terminal 3 Abu Dhabi United Arab Emirates
Status:	Confirmed		
Booking Code:	L		
Equipment:	Airbus Industrie A320	**Stops:**	Non-stop
Duration:	5 hours 0 minutes		
Seat:	08E (Non smoking Aisle) Confirmed - MENDENHALL/IAN HEWITT 08F (Non smoking Aisle) Confirmed - SENA NEVES/ERICA		
Meal:	Meal		

AIR - Sunday July 5 2015

Etihad Airways Flight EY470 Economy Class

Check In Confirmation: PJLXZN

Depart:	10 00 PM Sunday July 5 Abu Dhabi Intl Airport-Terminal 3 Abu Dhabi, United Arab Emirates	**Arrive:**	10 15 AM Monday July 6 Changi Airport-Terminal 2 Singapore Singapore
Status:	Confirmed		
Booking Code:	L		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	8 hours 15 minutes		
Seat:	20E (Non smoking Aisle) Confirmed - MENDENHALL/IAN HEWITT 20F (Non smoking Aisle) Confirmed - SENA NEVES/ERICA		
Meal:	Meal		

Invoice Details

Transaction / Document	Base	Tax	Total
Singapore Airlines / 618 7623303556 (Mendenhall/Ian Hewitt)	906 00	136 26	1042 26
	Form of Payment AX XXXXXXXXXXXX1055		
Singapore Airlines / 618 7623303557 (Sena Neves/Erica)	906 00	136.26	1042.26
	Form of Payment AX XXXXXXXXXXXX1055		
Etihad Airways / 607 7623303558 (Mendenhall/Ian Hewitt)	514 00	117 87	631 87
	Form of Payment AX XXXXXXXXXXXX1055		
Etihad Airways / 607 7623303559 (Sena Neves/Erica)	514 00	117 87	631 87
	Form of Payment AX XXXXXXXXXXXX1055		
Processing Fee / 890 0658240329 (Mendenhall/Ian Hewitt)	43 00		43.00
	Form of Payment AX XXXXXXXXXXXX1055		
Processing Fee / 890 0658240330 (Sena Neves/Erica)	43 00		43.00
	Form of Payment AX XXXXXXXXXXXX1055		
Totals:	2926 00	508 26	USD 3434 26

Total Charged to Credit Card: USD 3434.26

TD 302 Travel 19B

Printable Version

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Kentlands Travel

UNIGLOBE Kentlands Travel
60 Market Street Suite 203
Gaithersburg MD 20878
Phone (301) 948-2448

METABIOTA@UNIGLOBEKENTLANDS.COM

Passenger(s):	(b)(6)	**Booking Ref.:**	6V2K6B
Invoice No.:	68652-68653	**Agent:**	(b)(6)
Issue Date:	Friday June 5 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

• If you would like to view your reservation online Click Here

• For Aircraft Disinsection Requirements Click Here

AIR - Friday June 26 2015

Singapore Airlines Flight SQ106 Economy Class

Check In Confirmation:
6V2K6B *(*48 Hours Prior)*

Depart:	8 30 AM, Friday, June 26 Changi Airport-Terminal 2 Singapore Singapore	**Arrive:**	9 30 AM, Friday, June 26 Kuala Lumpur Intl Arpt Terminal M Kuala Lumpur, Malaysia
Status:	Confirmed		
Booking Code:	Y (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	1 hours 0 minutes	**Seat:**	41H (Non smoking Aisle) Confirmed
Meal:	Meal		

• Weather • Flight Status (up to 3 days prior) • Dining Reservation

AIR - Friday June 26 2015

X **Air Astana Flight KC936 Economy Class**

Check In Confirmation:
6V2K6B

Depart:	10 55 AM Friday June 26 Kuala Lumpur Intl Arpt Terminal M Kuala Lumpur Malaysia	**Arrive:**	4 55 PM Friday June 26 Almaty Airport Almaty Kazakhstan
Status:	Confirmed		
Booking Code:	K (Economy)		
Equipment:	Boeing 757	**Stops:**	Non-stop
Duration:	8 hours 0 minutes	**Seat:**	17H (Non smoking Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

• Weather • Flight Status (up to 3 days prior)

AIR - Sunday July 5 2015

TD 002 Travel 20A

Etihad Airways Flight EY297 Economy Class

Check In Confirmation: QHCZXF

Depart:	5 25 PM Sunday July 5 Almaty Airport Almaty Kazakhstan	**Arrive:**	8 25 PM Sunday July 5 Abu Dhabi Intl Airport-Terminal 3 Abu Dhabi United Arab Emirates
Status:	Confirmed		
Booking Code:	L		
Equipment:	Airbus Industrie A320	**Stops:**	Non-stop
Duration:	5 hours 0 minutes	**Seat:**	08C (Non smoking Aisle) Confirmed
Meal:	Meal		

AIR - Sunday July 5 2015

Etihad Airways Flight EY470 Economy Class

Check In Confirmation: QHCZXF

Depart:	10 00 PM Sunday July 5 Abu Dhabi Intl Airport-Terminal 3 Abu Dhabi United Arab Emirates	**Arrive:**	10 15 AM Monday July 6 Changi Airport-Terminal 2 Singapore Singapore
Status:	Confirmed		
Booking Code:	L		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	8 hours 15 minutes	**Seat:**	21D (Non smoking Aisle) Confirmed
Meal:	Meal		

Invoice Details

Transaction / Document		Base	Tax	Total
Singapore Airlines / 618 7623303560		906 00	136 26	1042 26
	Form of Payment AX XXXXXXXXXXXX1055			
Etihad Airways / 607 7623303561		514 00	117 87	631 87
	Form of Payment AX XXXXXXXXXXXX1055			
Processing Fee / 890 0658240331		43 00		43 00
	Form of Payment AX XXXXXXXXXXXX1055			
	Totals:	1463 00	254 13	USD 1717.13

Total Charged to Credit Card: USD 1717 13

Balance Due: USD 0 00

Fare Rules

• Airline policy - Fare is not guaranteed until ticketed This ticket is non refundable and non transferable. Changes are subject to fare Upgrade and change fee. Missing your flight without cancellation may result in the forfeiture of the value of your airline ticket

Baggage Fees & Allowances

Baggage charges may apply. Baggage allowance specific size and weight restrictions vary between airlines Please visit the airline's website or contact the airline directly for details

- Singapore Airlines or call CA~1-800-663-3046 US~1-800-742-3333
- Etihad Airways
- We don't have a link to the airline website for Air Astana Please go to http://www.kls2.com/airlines/ and click on the website of the airline which you are travelling

Important Information

• Your reservation number with Singapore Airlines is 6V2K6B

• Your reservation number with air astana is 6V2K6B

TD 002 Travel 20 B

Subject: June invoice 5 (b)(6)
Date: Thursday, July 23, 2015 at 11:59:55 AM Pacific Daylight Time
From: (b)(6)
To:

Sent from my iPhone

Begin forwarded message.

From: <METABIOTA@UNIGLOBEKENTLANDS.COM>
Date: June 12, 2015 at 10:59:40 PM EDT
To (b)(6)
(b)(6)
icket/Invoice #68654~68655, Agency File No.: 637ER4
Departs 26JUN15 To: Almaty, Tkt: 618-7623303562

Printable Version

UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone: (301) 948-2448
METABIOTA@UNIGLOBEKENTLANDS.COM

ETICKET RECEIPT IS ATTACHED
PLEASE REVIEW YOUR ITINERARY CAREFULLY
DISCREPANCIES MUST BE BROUGHT TO OUR ATTENTION WITHIN 24 HOURS
AFTER THAT TIME, ANY PENALTIES INCURRED DUE TO CHANGES ARE THE RESPONSIBILITY OF THE TRAVELER.

Passenger(s): (b)(6)
Booking Ref.: 637ER4
Invoice No.: 68654~68655
Agent: (b)(6)
Issue Date: Friday, June 5, 2015
Customer: MBA
Billing: METABIOTA INC
ONE SUTTER
SUITE 600
SAN FRANCISCO CA
94104

- If you would like to view your reservation online: Click Here
- For Aircraft Disinsection Requirements: Click Here

Singapore Airlines Flight SQ106 Economy Class

Check In Confirmation: **637ER4** *(*48 Hours Prior)*

Depart:	8:30 AM, Friday, June 26 Changi Airport-Terminal 2	**Arrive:**	9:30 AM, Friday, June 26 Kuala Lumpur Intl. Arpt.

TD002 Travel 21A

Equipment:	Airbus Industrie A320	**Stops:**	Non-stop
Duration:	5 hours 0 minutes	**Seat:**	11C (Non smoking, Aisle) Confirmed
Meal:	Meal		

• [illegible] • [illegible]

Etihad Airways Flight EY470 Economy Class **Check In Confirmation:** ADIFIG

Depart:	10:00 PM, Sunday, July 5 Abu Dhabi Intl. Airport-Terminal 3 Abu Dhabi, United Arab Emirates	**Arrive:**	10:15 AM, Monday, July 6 Changi Airport-Terminal 2 Singapore, Singapore
Status:	Confirmed		
Booking Code:	[illegible]		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	8 hours 15 minutes	**Seat:**	22C (Non smoking, Aisle) Confirmed
Meal:	Meal		

• [illegible] • [illegible] • [illegible]

Transaction / Document	**Base**	**Tax**	**Total**
Singapore Airlines / 618 7623303562	906.00	136.26	1042.26
Form of Payment: AX XXXXXXXXXXXX1055			
Etihad Airways / 607 7623303563	514.00	117.87	631.87
Form of Payment AX XXXXXXXXXXXX1055			
Totals:	1420.00	254.13	USD 1674.13

Total Charged to Credit Card: USD 1674.13

Balance Due: USD 0.00

• Airline policy - Fare is not guaranteed until ticketed. This ticket is non refundable and non transferable. Changes are subject to fare Upgrade and change fee. Missing your flight without cancellation may result in the forfeiture of the value of your airline ticket.

TD 002 Travel 21B

Printable Version

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OF THE TRAVELER.

Kentlands Travel

UNIGLOBE Kentlands Travel
60 Market Street Suite 203
Gaithersburg MD 20878
Phone (301) 948-2448

METABIOTA@UNIGLOBEKENTLANDS.COM

Passenger(s):	(b)(6)	**Booking Ref.:**	7D2UGL
Invoice No.:	68815~68816	**Agent:**	(b)(6)
Issue Date:	Thursday June 11 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

• If you would like to view your reservation online Click Here

• For Aircraft Disinsection Requirements Click Here

AIR - Friday June 26 2015

Singapore Airlines Flight SQ106 Economy Class

Check In Confirmation:
7D2UGL *(*48 Hours Prior)*

Depart:	8 30 AM Friday June 26 Changi Airport-Terminal 2 Singapore Singapore	**Arrive:**	9 30 AM Friday June 26 Kuala Lumpur Intl Arpt Terminal M Kuala Lumpur Malaysia
Status:	Confirmed		
Booking Code:	Y (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	1 hours 0 minutes	**Seat:**	41C (Non smoking Aisle) Confirmed
Meal:	Meal		

• Weather • Flight Status (up to 3 days prior) • Online Check-In

AIR - Friday June 26 2015

Air Astana Flight KC936 Economy Class

Check In Confirmation:
7D2UGL

Depart:	10 55 AM Friday June 26 Kuala Lumpur Intl Arpt Terminal M Kuala Lumpur Malaysia	**Arrive:**	4 55 PM Friday June 26 Almaty Airport Almaty Kazakhstan
Status:	Confirmed		
Booking Code:	K (Economy)		
Equipment:	Boeing 757	**Stops:**	Non-stop
Duration:	8 hours 0 minutes	**Seat:**	31H (Non smoking Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

Weather Flight Status (up to 3 days prior)

AIR - Sunday July 5 2015

TD 002 Travel 22A

Etihad Airways Flight EY297 Economy Class

Check In Confirmation: KWUIYX

Depart:	5 25 PM Sunday July 5 Almaty Airport Almaty Kazakhstan	**Arrive:**	8 25 PM Sunday July 5 Abu Dhabi Intl Airport-Terminal 3 Abu Dhabi United Arab Emirates
Status:	Confirmed		
Booking Code:	L		
Equipment:	Airbus Industrie A320	**Stops:**	Non-stop
Duration:	5 hours 0 minutes	**Seat:**	08D (Non smoking Aisle) Confirmed
Meal:	Meal		

AIR - Sunday July 5 2015

Etihad Airways Flight EY470 Economy Class

Check In Confirmation: KWUIYX

Depart:	10 00 PM Sunday July 5 Abu Dhabi Intl Airport-Terminal 3 Abu Dhabi United Arab Emirates	**Arrive:**	10 15 AM Monday July 6 Changi Airport-Terminal 2 Singapore Singapore
Status:	Confirmed		
Booking Code:	L		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	8 hours 15 minutes	**Seat:**	20G (Non smoking Aisle) Confirmed
Meal:	Meal		

Invoice Details

Transaction / Document	Base	Tax	Total
Singapore Airlines / 618 7623303719	902 00	136 13	1038 13
	Form of Payment AX XXXXXXXXXXXX1055		
Etihad Airways / 607 7623303720	514 00	117 89	631 89
	Form of Payment AX XXXXXXXXXXXX1055		
Processing Fee / 890 0658282330	43 00		43 00
	Form of Payment AX XXXXXXXXXXXX1055		
Totals:	1459 00	254 02	USD 1713 02

Total Charged to Credit Card: USD 1713 02

Balance Due: USD 0 00

Fare Rules

• Airline policy - Fare is not guaranteed until ticketed This ticket is non refundable and non transferable Changes are subject to fare Upgrade and change fee Missing your flight without cancellation may result in the forfeiture of the value of your airline ticket

Baggage Fees & Allowances

Baggage charges may apply Baggage allowance specific size and weight restrictions vary between airlines Please visit the airline's website or contact the airline directly for details

- Singapore Airlines or call CA~1-800-663-3046 US~1-800 742-3333
- Etihad Airways
- We don't have a link to the airline website for Air Astana Please go to http://www.kls2.com/airlines/ and click on the website of the airline which you are travelling

Important Information

• Your reservation number with Singapore Airlines is 7D2UGL

• Your reservation number with air astana is 7D2UGL

7002 Travel 228

1.

Receipt for $60. change fee

ITINERARY & RECEIPT

YOUR TRIP: LAX DCA
CONFIRMATION: JKCWZX

ITINERARY	DATES

WHO'S FLYING?

GUEST(S)	TICKET NUMBER	FREQUENT FLIER PROGRAM	FREQUENT FLIER #	POINTS

DEPARTING FLIGHT 878

		DATE	CABIN
		Mon	Main Cabin
12:25 PM	9:59 PM	08 22 2015	
			DEPARTING SEAT
		GUESTS	Not Selected
		(b)(6)	

TD 002 Travel 23 A

PAYMENT INFORMATION

BILLING ADDRESS

(b)(6)

TRANSACTION SUMMARY

Original Transaction: Jun 22, 2015	$481.10

PRICE DETAILS

Base Fare (x1)	$434.42
Federal Excise Tax	$32.58
Domestic Taxes and Fees	
Segment Fee	$4.00
Passenger Facility Charge	$4.50
September 11th Security Fee	$5.60
Total for 1 person	**$481.10**

Charging $50 change fee

Printable Version

Kentlands Travel

UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone: 301) 948-2448

N

Passenger(s):	(b)(6)	**Booking Ref.:**	637ABI
Invoice No.:	68794	**Agent:**	(b)(6)
Issue Date:	Wednesday, June 10, 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

• If you would like to view your reservation online.

• For Aircraft Disinsection Requirements:

AIR - Wednesday June 24 2015

United Airlines Flight UA932 Economy Class

Check In Confirmation:
I3M2B4 *(*24 Hours Prior)*

Depart:	10:00 PM, Wednesday, June 24 Dulles Intl Airport Washington, Dist. of Columbia, USA	**Arrive:**	12:00 PM, Thursday, June 25 Frankfurt Intl. Airport-Terminal 1 Frankfurt, Germany
Status:	Confirmed		
Booking Code:	L (Ec		
Equipment:	Boeing 777	**Stops:**	Non-stop
Duration:	8 hours 0 minutes	**Seat:**	43D (Non smoking) Confirmed
FF Number:	UAHTH31263	**Meal:**	Dinner

AIR - Thursday June 25 2015

United Airlines Flight UA9116 Economy Class
Operated By Lufthansa
Check In With Lufthansa (LH648)

Check In Confirmation:
I3M2B4

Depart:	1 _5 PM, Thursday June 25 Frankfurt Intl. Airport-Terminal 1 Frankfurt, Germany	**Arrive:**	11:55 PM, Thursday, June 25 Almaty Airport Almaty, Kazakhstan
Status:	Confirmed		
Booking Code:	L (myt		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 30 minutes	**Seat:**	Assigned At Check-In
FF Number:	UAHTH31263	**Meal:**	Cold Meal
Remarks:	Seat assigned at check-in		

AIR - Sunday July 5 2015

United Airlines Flight UA9117 Economy Class

Check In Confirmation:

TD002 Travel 24A

Operated By Lufthansa

Depart:	3:55 AM, Sunday, July 5 Almaty Airport Almaty, Kazakhstan	**Arrive:**	7:00 AM, Sunday, July 5 Frankfurt Intl. Airport-Terminal 1 Frankfurt, Germany
Status:	Confirmed		
Booking Code:	Q		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	7 hours 5 minutes	**Seat:**	31D (Non smoking, Aisle) Confirmed
FF Number:	UAHTH31263	**Meal:**	Cold Meal

Air - Sunday, July 5 2015

United Airlines Flight UA8832 Economy Class
Operated By Lufthansa
Check In With Lufthansa (LH416)

Check In Confirmation: I3M2B4

Depart:	10:45 AM, Sunday, July 5 Frankfurt Intl Airport-Terminal 1 Frankfurt, Germany	**Arrive:**	1:25 PM, Sunday, July 5 Dulles Intl Airport Washington, Dist of Columbia, USA
Status:	Confirmed		
Booking Code:	Q		
Equipment:	Boeing 747-400	**Stops:**	Non-stop
Duration:	8 hours 40 minutes	**Seat:**	38H (Non smoking, Aisle) Confirmed
FF Number:	UAHTH31263	**Meal:**	Meal

Invoice Details

Transaction / Document		Base	Tax	Total
United Airlines - 016 7623303688		1258 00	608 90	1866 90
	Form of Payment: AX XXXXXXXXXXXX2293			
Processing Fee / 890 0658267944		43 00		43.00
	Form of Payment: AX XXXXXXXXXXXX2293			
	Totals:	1301 00	608.90	USD 1909.90

Total Charged to Credit Card: USD 1909 90
Balance Due: USD 0 00

Fare Rules

• Airline policy - Fare is not guaranteed until ticketed. This ticket is non refundable and non transferable. Changes are subject to fare Upgrade and change fee. Missing your flight without cancellation may result in the forfeiture of the value of your airline ticket.

Baggage Fees & Allowances

Baggage allowance, specific size and weight restrictions vary between airlines. Please visit the link below to view the allowances and possible fees for your trip

- Baggage Fees/Allowances

Important Information

• Your reservation number with United Airlines is I3M2B4. United Airlines contact phone number is 1-800-538-2929.

• Please check in at least 3 hours prior to departure. Late checkin may result in the loss of seat/reservation check in cut off time varies per carrier. Confirm with your carrier to avoid denied boarding

• A valid passport is required for your journey. Passport must be valid at least 6 months beyond intended stay

• Passengers may carry travel sized toiletries or liquids 3 oz or less through security check points. They must fit in one quart sized, clear plastic

TD002 Travel 2 of 3

Printable Version

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DISCREPANCIES MUST BE BROUGHT TO OUR ATTENTION WITHIN 24 HOURS
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OF THE TRAVELER

Kentlands Travel

UNIGLOBE Kentlands Travel
60 Market Street Suite 203
Gaithersburg MD 20878
Phone (301) 948-2448

METABIOTA@UNIGLOBEKENTLANDS.COM

Passenger(s):	(b)(6)	**Booking Ref.:**	7BTGJ2
Invoice No.:	68792	**Agent:**	(b)(6)
Issue Date:	Wednesday, June 10 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

- If you would like to view your reservation online Click Here
- For Aircraft Disinsection Requirements Click Here

AIR - Wednesday June 24 2015

United Airlines Flight UA932 Economy Class

Check In Confirmation: O1HZ2X *(*24 Hours Prior)*

Depart:	10:00 PM, Wednesday June 24 Dulles Intl Airport Washington, Dist of Columbia USA	**Arrive:**	12:00 PM Thursday, June 25 Frankfurt Intl Airport-Terminal 1 Frankfurt Germany
Status:	Confirmed		
Booking Code:	L (Economy)		
Equipment:	Boeing 777	**Stops:**	Non-stop
Duration:	8 hours 0 minutes	**Seat:**	44G (Non smoking) Confirmed
FF Number:	UAWKW91787	**Meal:**	Dinner

• Weather • Flight Status (up to 3 days prior) • Dining Reservation

AIR - Thursday June 25 2015

United Airlines Flight UA9116 Economy Class
Operated By Lufthansa
Check In With Lufthansa (LH648)

Check In Confirmation: O1HZ2X

Depart:	1:25 PM Thursday June 25 Frankfurt Intl Airport-Terminal 1 Frankfurt Germany	**Arrive:**	11:55 PM Thursday June 25 Almaty Airport Almaty Kazakhstan
Status:	Confirmed		
Booking Code:	L (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 30 minutes	**Seat:**	Assigned At Check-In
FF Number:	UAWKW91787	**Meal:**	Cold Meal
Remarks:	Seat assigned at check-in		

Weather • Flight Status (up to 3 days prior)

AIR - Sunday July 5 2015

United Airlines Flight UA9117 Economy Class

Check In Confirmation:

TD002 Travel 25A

Operated By Lufthansa
Check In With Lufthansa (LH647)

O1HZ2X

Depart:	3 55 AM Sunday July 5 Almaty Airport Almaty Kazakhstan	**Arrive:**	7 00 AM Sunday July 5 Frankfurt Intl Airport-Terminal 1 Frankfurt Germany
Status:	Confirmed		
Booking Code:	H		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	7 hours 5 minutes	**Seat:**	32C (Non smoking Aisle) Confirmed
FF Number:	UAWKW91787	**Meal:**	Cold Meal

AIR - Sunday July 5 2015

United Airlines Flight UA8832 Economy Class
Operated By Lufthansa
Check In With Lufthansa (LH416)

Check In Confirmation:
O1HZ2X

Depart:	10 45 AM Sunday July 5 Frankfurt Intl Airport-Terminal 1 Frankfurt Germany	**Arrive:**	1 25 PM Sunday July 5 Dulles Intl Airport Washington Dist of Columbia USA
Status:	Confirmed		
Booking Code:	H		
Equipment:	Boeing 747-400	**Stops:**	Non-stop
Duration:	8 hours 40 minutes	**Seat:**	40H (Non smoking Aisle) Confirmed
FF Number:	UAWKW91787	**Meal:**	Meal

Invoice Details

Transaction / Document		Base	Tax	Total
United Airlines / 016 7623303686		1358 00	608 90	1966.90
	Form of Payment AX XXXXXXXXXXXX1055			
Processing Fee / 890 0658267942		43 00		43 00
	Form of Payment AX XXXXXXXXXXXX1055			
	Totals:	1401 00	608 90	USD 2009 90

Total Charged to Credit Card: USD 2009 90
Balance Due: USD 0 00

Fare Rules

• Airline policy - Fare is not guaranteed until ticketed This ticket is non refundable and non transferable Changes are subject to fare Upgrade and change fee Missing your flight without cancellation may result in the forfeiture of the value of your airline ticket

Baggage Fees & Allowances

Baggage allowance specific size and weight restrictions vary between airlines Please visit the link below to view the allowances and possible fees for your trip

- Baggage Fees/Allowances

Important Information

• Your reservation number with United Airlines is O1HZ2X United Airlines contact phone number is 1-800-538-2929

• Please check in at least 3 hours prior to departure Late checkin may result in the loss of seat/reservation check in cut off time varies per carrier Confirm with your carrier to avoid denied boarding

• A valid passport is required for your journey Passport must be valid at least 6 months beyond intended stay

• Passengers may carry travel sized toiletries or liquids 3 oz or less through security check points. They must fit in one quart sized, clear plastic

D002 Travel 25 B

Subject: June invoice 3 - Smith
Date: Thursday, July 23, 2015 at 11:58:51 AM Pacific Daylight Time
From: (b)(6)
To:

Begin forwarded message:

From: <METABIOTA@UNIGLOBEKENTLANDS.COM>
Date: June 13, 2015 at 3:22:54 AM EDT
To: <invoices@uniglobekentlands.com>, (b)(6)
(b)(6)
Subject: SMITH/GAVIN JAMES, Ticket/Invoice #68667~68668, Agency File No.: 637T8E Departs 27JUN15 To: Almaty, Tkt: 988-7623303574

Printable Version

UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone: (301) 948-2448
METABIOTA@UNIGLOBEKENTLANDS.COM

ETICKET RECEIPT IS ATTACHED
PLEASE REVIEW YOUR ITINERARY CAREFULLY ***
DISCREPANCIES MUST BE BROUGHT TO OUR ATTENTION WITHIN 24 HOURS.
AFTER THAT TIME, ANY PENALTIES INCURRED DUE TO CHANGES ARE THE RESPONSIBILITY OF THE TRAVELER

Passenger(s): (b)(6)
Booking Ref.: 637T8E
Invoice No.: 68667~68668
Agent: (b)(6)
Issue Date: Friday, June 5, 2015
Customer: MBA
Billing: METABIOTA INC
ONE SUTTER
SUITE 600
SAN FRANCISCO CA
94104

- If you would like to view your reservation online: Click Here
- For Aircraft Disinsection Requirements: Click Here

Asiana Airlines Flight OZ6782 Economy Class
Operated By Singapore Airlines
Check In With Singapore Airlines (SQ608)
Check In Confirmation: 637T8E

Depart: 12:10 AM, Saturday, June 27
Changi Airport-Terminal 3
Singapore, Singapore

Arrive: 7:45 AM, Saturday, June 27
Incheon Intl. Airport
Seoul, Korea

TD 602 Travel 26A

Status:	Confirmed		
Booking Code:	Y (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 35 minutes	**Seat:**	40G (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

• Weather • Flight Status

Asiana Airlines Flight O26961 Economy Class
Operated By Air Astana
Check In With Air Astana (KC910)*

Check In Confirmation: 637T8E

Depart:	12:55 PM, Saturday, June 27 Incheon Intl. Airport Seoul, Korea	**Arrive:**	4:45 PM, Saturday, June 27 Almaty Airport Almaty, Kazakhstan
Status:	Confirmed		
Booking Code:	Y (Economy)		
Equipment:	Boeing 767	**Stops:**	Non-stop
Duration:	6 hours 50 minutes	**Seat:**	13D (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

• Weather • Flight Status

Etihad Airways Flight EY297 Economy Class

Check In Confirmation: NXFQBE

Depart:	5:25 PM, Friday, July 3 Almaty Airport Almaty, Kazakhstan	**Arrive:**	8:25 PM, Friday, July 3 Abu Dhabi Intl. Airport-Terminal 3 Abu Dhabi, United Arab Emirates
Status:	Confirmed		
Booking Code:	L (Economy)		
Equipment:	Airbus Industrie A320	**Stops:**	Non-stop
Duration:	5 hours 0 minutes	**Seat:**	17D (Non smoking)

TD002 Travel 26B

Confirmed

Meal: Meal

• [redacted]

Etihad Airways Flight EY470 Economy Class — **Check In Confirmation:** NXFQBE

Depart:	10:00 PM, Friday, July 3 Abu Dhabi Intl. Airport-Terminal 3 Abu Dhabi, United Arab Emirates	**Arrive:**	10:15 AM, Saturday, July 4 Changi Airport-Terminal 2 Singapore, Singapore
Status:	Confirmed		
Booking Code:	L (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	8 hours 15 minutes	**Seat:**	37G (Non smoking) Confirmed

Meal: Meal

• [redacted]

Transaction / Document	Base	Tax	Total
Asiana Airlines / 988 7623303574	2349.00	146.10	2495.10
Form of Payment: AX XXXXXXXXXXXX1055			
Etihad Airways / 607 7623303575	529.00	117.87	646.87
Form of Payment: AX XXXXXXXXXXXX1055			
Processing Fee / 890 0658240344	43.00		43.00
Form of Payment: AX XXXXXXXXXXXX1055			
Totals:	2921.00	263.97	USD 3184.97

3141.97

TD002 Travel 24 C

TD 002 Sample Collection and Diagnostics Training on Middle East Respiratory Syndrome (MERS-Coronavirus) in Camels and Bats - Kazakhstan

Objectives

To advance scientific study and experimentation and increase worldwide knowledge of safe sample collection and laboratory diagnostics through detailed training sessions both in labs and in the field. The training will focus on safe sample collection and laboratory diagnostics for Middle East Respiratory Syndrome (MERS-CoV) in camels and bats supporting enhanced biosafety and biosurveillance efforts in the region.

Period of Performance: 05/16/2015 - 01/31/2016

CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$193,010.00	$197,956.15	$4,946.15
1003	$69,578.14	$22,668.59	$46,909.55
1004	$3,062.36	$3,547.86	$485.50
1005	$125,405.36	$49,331.97	$76,073.39
TOTAL	$391,055.86	$273,504.57	$117,551.29

CLIN 1002 – Labor

Program Manager: 147 hours

(b)(6) oversaw the administration and management of the project, to include submission of all deliverables required for implementation of the field and laboratory training courses. Deliverable submissions included the after-action report from the field surveillance training, and required CLS forms for foreign travel, in-country travel, logistical requirements, translation and interpretation support, to facilitate execution of the December laboratory training. As well, she continued coordination with CBEP, CLS, and project team members for customs clearance of internationally procured materials and supplies, to include rescheduling the training from September to December to account for the lead time required to allow the shipments to reach IVM. She also completed CDRL 11 following the receipt of templates and country specific information from CBEP, and submitted them for translation and final execution with the end-user.

In addition, she continued coordination with CBEP, Duke NUS trainers, IVM scientists and project managers to ensure the December training event was coordinated and on track for implementation. This included holding routine conference calls with all involved, securing laboratory clearance for all participants and trainers, procurement of local materials and supplies, execution of the MoU with Metabiota and IVM governing the overall execution of the project, and facilitating regional travel to anti-plague stations ensuring governmental and local buy-in for participant attendance.

Trainer 1: 55 hours

DUKE NUS provided trainer 1 hours in order to prepare and finalize the training materials submitted for PAO approval, translation, and printing in support of the December laboratory event. In addition, Martin Linster supported coordination of international supply shipments of reagents to Kazakhstan through

coordination with Metabiota and CLS personnel, as well as optimizing the assays required for use during the laboratory practicum component of the training. Trainer 1 hours were also utilized to assist with coordination of the rescheduled training, and submission of required CDRLs.

Trainer 2: 166 hours

(b)(6) coordinated directly with Metabiota to provide institutional data in order to finalize the subcontract agreement with Metabiota. They prepared financial projections and progress reports for the Duke NUS team, feeding into the monthly reporting requirements submitted to CBEP. They also provided subject matter expertise to develop, review, and submit the final training materials required for the December event. They participated in routine communications and emails with Metabiota project personnel, and IVM scientists to finalize all coordination and travel needs for the December training event, to include finalizing travel and scheduling requirements, coordination of international shipments, optimization of assays for use at the training, and development and review of locally procured consumables required for the event.

Trainer 3: 12 hours

(b)(6) provided oversight and subject matter expertise to prepare and finalize the training materials required for the December laboratory training event.

Research and Data Analyst: 143.5 hours

(b)(6) continued to support the program manager in facilitating communication and collaboration with key CBEP personnel, in-country partners, Duke-NUS Qualified Trainers (QTs) and CLS to support finalization of logistical requirements for the training event, such as procurement, shipment, venue selection, air and ground transportation, interpretation, translation, printing, etc. She coordinated with the program team to assist in providing necessary information and coordination with trainers, and in-country partners for custom's clearance requirements identified by CLS and DTRO. She supported coordination with CLS to finalize translation, printing, and shipment of the training materials. She also worked closely with the program manager and travel coordinator to track and manage travel requirements necessary in the rescheduling of the training event.

CLIN 1003 – Materials and Supplies

Material and supply costs incurred during this period are for bat surveillance equipment and consumables purchased by Metabiota from third-country suppliers to support the June-July training course. In addition, supply costs include reagents procured for the December laboratory training event that will be shipped by CLS to Kazakhstan.

CLIN 1004 – ODCs

DBA costs were incurred for (b)(6) to attend the field surveillance training event held from June-July.

CLIN 1005 – Travel

Travel costs invoiced are inclusive of costs that were not invoiced in May-July in support of the June-July field surveillance training held in Almaty. Travel costs invoiced in this period include per diem, transportation, and visa expenses for Duke NUS trainers, as well as costs incurred by the Metabiota program manager during the pre-coordination travel to Washington DC prior to departure to Kazakhstan to facilitate the training event.

Travel costs incurred during this period also include the change fees to airfare purchased in support of the laboratory training that was rescheduled from September to December to allow for custom's clearance of internationally procured supplies.

Metabiota

TD 002 Sample Collection and Diagnostics Training on Middle East Respiratory Syndrome (MERS-Coronavirus) in Camels and Bats - Kazakhstan

CLIN 1002 LABOR

NAME	LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED
[redacted]						

(b)(4); (b)(6)

CLIN 1003 Materials

Transaction Description		CURRENT INVOICE		CUMULATIVE INVOICED
KZ MERS-CoV Training June 2015		$ 3,986.99	1	
KZ MERS-CoV Training June 2015		$ 1,194.60	2	
KZ MERS-CoV Training June 2015		$ 376.45	3	
Direct Materials: Billabl		$ 3,128.75	4	
		$ 8,686.79		$ 21,533.76
	5.27%	$ 457.79		$ 1,134.83
		$ 9,144.58		$ 22,668.59

CLIN 1004 ODC

Transaction Description		CURRENT INVOICE		CUMULATIVE INVOICED	
ODC: Other		$ 372.00	5	$ 2,717.00	
	30.58%	$ 113.76		$ 830.86	
		$ 485.76		**$ 3,547.86**	

CLIN 1005 Travel

Transaction Description	CURRENT INVOICE		CUMULATIVE INVOICED	
Pre-Coordination Meetings in D	$ 481.10	1		
Travel: Foreign Airfare	$ 1,381.01	2		
Travel: Foreign Airfare	$ 878.02	3		
Travel: Foreign Airfare	$ 129.00	4		
Travel: Foreign Transport	$ (2.23)	NR		
Travel: Per Diem	$ 3,661.00	Per Diem		
AEP Kazakhstan MERS-CoV Traini	$ 165.00	5		
KZ MERS-CoV Training June-July	$ 874.50	Per Diem		
	$ 7,567.40		**$ 49,331.97**	
TOTAL INVOICE	**$ 86,546.19**		**$ 273,504.57**	

VISA

CITY NATIONAL BANK
The way up

PO BOX 54830
LOS ANGELES CA 90054

MEMO STATEMENT

ACCOUNT NUMBER	XXXX XXXX XXXX 4551
CLOSING DATE	06-29-15
TOTAL ACTIVITY	$5,570.04

** MEMO STATEMENT ONLY **
DO NOT REMIT PAYMENT

(b)(6)
METABIOTA INC
(b)(6)
1 SUTTER ST STE 600
SAN FRANCISCO CA 94104-4923

(b)(6)

IMPORTANT INFORMATION

Please see reverse side for important information, including additional disclosures regarding the annual fee.

CARDHOLDER SUMMARY

CARLYLE GOLLOGLY XXXX XXXX XXXX 4551	Purchases And Other Debits	+	Cash Advances	−	Credits	=	Total Activity
Cardholder Total	$5,570.04		$0.00		$0.00		$5,570.04

FOR CUSTOMER SERVICE CALL
1-800-998-8205
INTERNATIONAL
800-773-71000

SEND INQUIRIES TO:
CREDIT CARD PROCESSING CENTER
DISPUTE RESOLUTION
PO BOX 84021
COLUMBUS GA 31908-4021

ACCOUNT NUMBER
XXXX-XXXX-XXXX-4551

CLOSING DATE	TOTAL CREDIT LINE
06/29/15	$6,000.00
DISPUTED AMOUNT	**CASH LIMIT***
$0.00	$1,800.00

*This represents a portion of your Total Credit Line.

ACCOUNT SUMMARY

PURCHASES & OTHER CHARGES	$5,570.04
CASH ADVANCES	.00
CASH ADVANCE FEES	.00
CREDITS	.00
TOTAL ACTIVITY	$5,570.04

CARDHOLDER ACTIVITY

Post Date	Tran Date	Reference Number	Transaction Description	Amount	
			NOTICE MEMO ITEMS LISTED BELOW		
06-12	06-10	74678585163050114216124	FOREIGN TRANSACTION FEE	M10.86	
06-12	06-11	74570005163816342261183	FOREIGN TRANSACTION FEE	M34.78	
06-12	06-11	74840525162906001714233	FOREIGN TRANSACTION FEE	M118.13	# 1 paid
06-12	06-10	74678585163050114216124	WWW.WATDON.CO.UK INTERNET (FOREIGN CURRENCY) $235.23 GBP 06/12 (RATE) 0.6438	M385.49	
06-12	06-11	74570005163816342261183	LARS PETTERSSON UPPSALA (FOREIGN CURRENCY) $9,500.00 SEK 06/12 (RATE) 8.1910	M1,159.81	
06-12	06-11	74840525162906001714233	FAUNATECH AUSTBAT MOUNT TAYLOR (FOREIGN CURRENCY) $4,986.32 AUD 06/12 (RATE) 1.2830	M3,870.86	# 1 paid
06-19	06-15	74547065170000236806770	FOREIGN TRANSACTION FEE	M2.00	
06-19	06-15	74547065170000236806770	SKYPE.COM LUXEMBOURG	M10.00	
			TOTAL AMOUNT OF MEMO ITEM(S):	**$5,570.04**	

materials TD 2 # 1a

Metabiota Inc.

1 Sutter St, Ste 600
San Francisco, CA 94104
Phone: (415) 398-4712
Fax: (415) 398-4716
Email: invoices@metabiota.com

PURCHASE ORDER

DATE ORDER Opended:	6/8/15
DATE ORDER Authorized:	6/9/15
Country:	Kazakhstan
P.O. #	AEP025
Project:	AEP KZ Bat Training
G. Charge Code:	CI-N 1003, Materials

(b)(6)
PO Box 1655
Bairnsdale, 3875
Victoria, Australia
goodgear@faunatech.com.au
Ph. 61 3 51579001

050040, Almaty, Kazakhs
29/6 Satpayev Str., 5th fl
Attn (b)(6)
Ph +7 (727) 2980229

(b)(6)

Carlyle Gollogly	DHL Express	URGENT

1	Mini two-bank harp trap, 1.0m2, fully strung		1	1,750.00	$ 1,750.00
2	Troppo Catching Bag		1	120.00	$ 120.00
3	String ng Kit		1	65.00	$ 65.00
4	Watertight PVC cartage tube short		1	99.00	$ 99.00
5	Echo Meter EM3+ handheld bat detector		1	1565.00	$ 1,565.00
6	GPS Option for EM3		1	225	$ 225.00
7	SanDisk Ultra Class 10 SDHC 16 GB		2	28	$ 56.00
8	Kaleidascope Viewer		1	515	$ 515.00
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -

SUBTOTAL	$	4,395.00
TAX RATE	$	-
TAX	$	-
S & H	$	488.30
OTHER	$	-
TOTAL	$	4,883.30
CC Service Charge	$	83.02
GRAND TOTAL	$	4,966.32

Other Comments or Special Instructions

Request Order Be Expedited, If possible to Arrive in Country by 23 June, at the latest. PO is in Australian Dollars

(b)(6)
Date

AEP Director

(b)(6)
Date

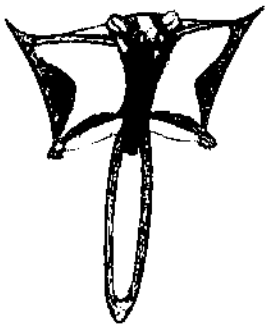
Invoicing $3,986.99

Please send invoice directly to invoices@metabiota.com for payment.

TD 2 # 1b

Faunatech Austbat

INVOICE



PO Box 1655
BAIRNSDALE 3875
Victoria, Australia

ABN 65 151 558 342

Ph +61 3 51579001
Fax +61 3 51579002

goodgear@faunatech.com.au
www.faunatech.com.au

DATE	INVOICE #
10/06/2015	6812

BILL TO	SHIP TO
Metabiota Inc 1 Sutter St. Ste 600 San Francisco CA 94104	Att: (6)(6) 29/6 Satpayev Str, 5th Floor 050040, Almaty Kazakhstan

P.O. NUMBER	TERMS	SHIP DATE	SHIP VIA
AH9025	Payment received	15/06/2015	DHL

ITEM DESCRIPTION	QTY	UNIT PRICE	SUB TOTAL
Mini two-bank harp trap, 1.0 m2, fully strung	1	1,750.00	1,750.00
Added cost to upgrade to 'troppo' catching bag	1	120.00	120.00
Stringing Kit Includes spool of high quality monofilament, bobbin holder, stringing bars, small scissors.	1	65.00	65.00
Watertight PVC cartage tube - short	1	99.00	99.00
Echo Meter EM3+ handheld bat detector	1	1,565.00	1,565.00
GPS Option for EM3	1	225.00	225.00
SanDisk Ultra Class 10 SDHC 16 GB	2	28.00	56.00
Kaleidoscope Viewer	1	515.00	515.00
Freight & Packaging		392.00	392.00
Transit insurance @ 2.5% of the value of the goods		96.30	96.30
1.7 % Credit card surcharge		83.02	83.02
Payment by credit card received with thanks June 11th 2015			

Your contact: (6)(6)

Thank you for your business.

[Please make proceeds payable to Faunatech. All figures shown are in Australian Dollars.]

INVOICE TOTAL (AUD) $4,966.32

TO 2 # 12

Subject: FAUNATECH AUSTBAT PTY LTD payment receipt - 5435 5140 939
Date: Thursday, June 11, 2015 at 12:15:01 AM Pacific Daylight Time
From: no-reply@bpoint.com.au
To: (b)(6)

BPOINT Payment Receipt

1055 BULLUMWAAL RD
MOUNT TAYLOR, VIC, 3875
Web: www.

Payment Details

You have paid:	FAUNATECH AUSTBAT PTY LTD
Customer Reference 1:	Faunatech Inv 6812
Customer Reference 2:	
Customer Reference 3:	
Merchant Reference:	Inv 6812
Payment Amount:	AUD 4,966.32
Account Type:	VISA
Card Number:	...551
Expiry Date:	0417

Authorisation Result - Approved

Payment Date:	11/06/2015 05:14 PM
Time Zone:	Sydney, Australia
Receipt Number:	5435 5140 939

© Commonwealth Bank of Australia 2015 ABN 48 123 123 124

TD 2 # 10

VIDA

CITY NATIONAL BANK
The way up.

PO BOX 54830
LOS ANGELES CA 90054

MEMO STATEMENT

ACCOUNT NUMBER	XXXX XXXX XXXX 4551
CLOSING DATE	06-29-15
TOTAL ACTIVITY	$5,570.04

** MEMO STATEMENT ONLY **
DO NOT REMIT PAYMENT

(b)(6)
METABIOTA INC
(b)(6)
1 SUTTER ST STE 600
SAN FRANCISCO CA 94104-4923

(b)(6)

IMPORTANT INFORMATION

Please see reverse side for important information, including additional disclosures regarding the annual fee.

CARDHOLDER SUMMARY

CARLYLE GOLLOGLY XXXX XXXX XXXX 4551	Purchases And Other Debits	+	Cash Advances	–	Credits	=	Total Activity
Cardholder Total	$5,570.04		$0.00		$0.00		$5,570.04

FOR CUSTOMER SERVICE CALL
1-800-998-6206
INTERNATIONAL
800-773-71000

SEND INQUIRIES TO:
CREDIT CARD PROCESSING CENTER
DISPUTE RESOLUTION
PO BOX 84021
COLUMBUS GA 31908-4021

ACCOUNT NUMBER
XXXX-XXXX-XXXX-4551

CLOSING DATE	TOTAL CREDIT LINE
06/29/15	$8,000.00
DISPUTED AMOUNT	**CASH LIMIT***
$0.00	$1,600.00

*This represents a portion of your Total Credit Line.

ACCOUNT SUMMARY

PURCHASES & OTHER CHARGES	$5,570.04
CASH ADVANCES	.00
CASH ADVANCE FEES	.00
CREDITS	.00
TOTAL ACTIVITY	$5,570.04

CARDHOLDER ACTIVITY

Post Date	Tran Date	Reference Number	Transaction Description	Amount
		**********	NOTICE MEMO ITEMS LISTED BELOW **********	
06-12	06-10	74678585163050114216124	FOREIGN TRANSACTION FEE	M10.96
06-12	06-11	74570005163816342261183	FOREIGN TRANSACTION FEE	M34.79
06-12	06-11	74940525162906001714233	FOREIGN TRANSACTION FEE	M116.13
06-12	06-10	74678585163050114216124	WWW.WATDON.CO.UK INTERNET (FOREIGN CURRENCY) $235.23 GBP 06/12 (RATE) 0.6436	M365.49
06-12	06-11	74570005163816342261183	LARS PETTERSSON UPPSALA (FOREIGN CURRENCY) $9,500.00 SEK 06/12 (RATE) 8.1810	M1,159.81
06-12	06-11	74940525162906001714233	FAUNATECH AUSTBAT MOUNT TAYLOR (FOREIGN CURRENCY) $4,966.32 AUD 06/12 (RATE) 1.2830	M3,870.86
06-19	06-15	74547065170000236606770	FOREIGN TRANSACTION FEE	M2.00
06-19	06-15	74547065170000236606770	SKYPE.COM LUXEMBOURG	M10.00
		**********	TOTAL AMOUNT OF MEMO ITEM(S):	$5,570.04

#2 paid

#2 paid

$1,194.60

TD 2 - #2a

Metabiota Inc.
1 Sutter St, Ste 600
San Francisco CA 94104
Phone (415) 398-4712
Fax (415) 398-4716
Email: invoices@metabiota.com

PURCHASE ORDER

DATE ORDER Opended:	6/8/15
DATE ORDER Authorized:	6/10/15
Country:	Kazakhstan
P.O. #	AEP-028
Project	AEP K2 Bat Training
GL Charge Code:	CTIN3003 Materials

Pettersson Elektronik AB
Uppsala Science Park
Dag Hammarskjölds Väg 34A
S-751 83 Uppsala, Sweden
info@batsound.com
Fax 46 18 30 38 80

050040 Almaty Kazakhstan
25/6 Satpayev Str, 5th floor
Attn: Victoria Silantyeva
Ph +7 (727) 2980225
Cell +7 701 220 4770
victoria@tmc.kz

Carlyle Gallogly	DHL Express	URGENT

1	M500 USB ultrasonic microphone		1	3,500.00	3,500.00 €
2	BatSound ver 4.23, 5 user license		1	5,500.00	5,500.00 €
3					- €
4					- €
5					- €
6					- €
7					- €
8					- €
					- €
					- €
					- €
					- €
					- €
					- €
					- €

SUBTOTAL	9,000.00 €
TAX RATE	- €
TAX	- €
S & H	500.00 €
OTHER	- €
TOTAL	9,500.00 €

Other Comments or Special Instructions

Request Order Be Expedited, if possible to Arrive in Country by 23 June, at the latest. PO is in Swedish Krona.

(9)(q)

6/10/15
Date — AEP Director

Date — Finance Dept

Please send invoice directly to invoices@metabiota.com for payment.

9500 SEK = USD 1159.81
34.79 +
US$ 1194.60

TD 2 #26

Pettersson
Elektronik AB

INVOICE

Date

11 June, 2015

Bill To:	Ship To:	Invoice due date:
Metabiota, Inc. One Sutter, Suite 600 San Francisco, CA 94104 USA	TMC Global Professional Services, ATT: (b)(6) 29/6 Satpayev Str, 5th floor, 050040 Almaty Kazakhstan	

YOUR #	OUR #	FREIGHT TERMS	SHIP VIA	PAYMENT TERMS
	150632	EXW Incoterms 2010	DHL	Visa card

QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL
1	BatSound 4.21 software, 5-user	SEK 5500.00	SEK 5500.00
	TARIC code: 85234959		
	Country of origin: Sweden		
1	M500 Ultrasound microphone, 14111	SEK 3500.00	SEK 3500.00
	TARIC code: 85181095		
	Country of origin: Sweden		

	SUBTOTAL	SEK 9000.00
	Postage & packing	SEK 500.00
	TOTAL	SEK 9500.00

Claims should be reported within 15 days

Overdue payments are subject to interest at a rate of 2% per month

No property in or title to the products covered by this invoice shall pass to the purchaser until Pettersson Elektronik have received their full purchase price

The exporter of the products covered by this document declares that, except where otherwise clearly indicated, these products are of EEA preferential origin

Place and date

Uppsala, 11 June, 2015

Exporter's signature

(b)(6)

Address
Dag Hammarskjölds v. 34A
S-751 83 UPPSALA
Sweden

Telephone
+46 18 303880
Telefax
+46 18 303840

Bank
Swedbank
S-105 34 Stockholm
Swift
SWEDSESS

Bank Account
83816 403D5D8081
IBAN
SE0880000838164030508081

VAT Reg. No
SE556315045601

TD 2 - # 2c

VISA

CITY NATIONAL BANK
The way up

PO BOX 54830
LOS ANGELES CA 90054

MEMO STATEMENT

ACCOUNT NUMBER	XXXX XXXX XXXX 4551
CLOSING DATE	06-29-15
TOTAL ACTIVITY	$5,570.04

** MEMO STATEMENT ONLY **
DO NOT REMIT PAYMENT

(b)(6)

(b)(6)
1 SUTTER ST STE 600
SAN FRANCISCO CA 94104-4923

IMPORTANT INFORMATION

Please see reverse side for important information, including additional disclosures regarding the annual fee.

CARDHOLDER SUMMARY

(b)(6) 4551	Purchases And Other Debits	+	Cash Advances	−	Credits	=	Total Activity
Cardholder Total	$5,570.04		$0.00		$0.00		$5,570.04

FOR CUSTOMER SERVICE CALL
1-800-998-6206
INTERNATIONAL
800-773-71000

SEND INQUIRIES TO:
CREDIT CARD PROCESSING CENTER
DISPUTE RESOLUTION
PO BOX 84021
COLUMBUS GA 31908-4021

ACCOUNT NUMBER
XXXX-XXXX-XXXX-4551

CLOSING DATE	TOTAL CREDIT LINE
06/29/15	$8,000.00

DISPUTED AMOUNT	CASH LIMIT*
$0.00	$1,800.00

*This represents a portion of your Total Credit Line.

ACCOUNT SUMMARY

PURCHASES & OTHER CHARGES	$5,570.04
CASH ADVANCES	.00
CASH ADVANCE FEES	.00
CREDITS	.00
TOTAL ACTIVITY	$5,570.04

CARDHOLDER ACTIVITY

Post Date	Tran Date	Reference Number	Transaction Description	Amount
			NOTICE MEMO ITEMS LISTED BELOW	
06-12	06-10	74678585163050114216124	FOREIGN TRANSACTION FEE	M10.96
06-12	06-11	74570005163816342261183	FOREIGN TRANSACTION FEE	M34.79
06-12	06-11	74940525162906001714233	FOREIGN TRANSACTION FEE	M118.13
06-12	06-10	74678585163050114216124	WWW.WATDON.CO.UK INTERNET (FOREIGN CURRENCY) $235.23 GBP 06/12 (RATE) 0.6436	M385.49
06-12	06-11	74570005163816342261183	LARS PETTERSSON UPPSALA (FOREIGN CURRENCY) $9,500.00 SEK 06/12 (RATE) 8.1910	M1,159.81
06-12	06-11	74940525162906001714233	FAUNATECH AUSTBAT MOUNT TAYLOR (FOREIGN CURRENCY) $4,968.32 AUD 06/12 (RATE) 1.2830	M3,870.86
06-19	06-15	74547065170000236606770	FOREIGN TRANSACTION FEE	M2.00
06-19	06-15	74547065170000236606770	SKYPE.COM LUXEMBOURG	M10.00
			TOTAL AMOUNT OF MEMO ITEM(S):	**$5,570.04**

3 paid

* 3 paid

TD 2 - #3

Metabiota Inc.

1 Sutter St, Ste 600
San Francisco, CA 94104
Phone: (415) 398-4712
Fax: (415) 398-4716
Email: invoices@metabiota.com

PURCHASE ORDER

DATE ORDER Opended:	6/8/15
DATE ORDER Authorized:	6/9/15
Country:	Kazakhstan
P.O. #:	AEP024
Project	AEP KZ Bat Training
GL Charge Code:	CHN 1003, Materials

[redacted]
PO Box 114, Leominster, HR6 6 BS
www.waldon.co.uk
(44) 333 800 3133
emma@waldon.co.uk

050043, Almaty, Kazakhstan
29/6 Satpayev Str, 5th floor
Attn: **Victoria Silantyeva**
Ph +7 (727) 2980225
Cell +7 701 220 4770
victoria@tmc.kz

Carlyle Goltogly	DHL Express	URGENT

1	Pocket Spring-Steel net frame	E671F	2	8.64	£	17.28
2	Black Net Bag for E671F	E67Z	2	7.70	£	15.40
3	50cm (20") Fourfold net frame	E6745F	2	16.80	£	33.60
4	Telescopic net handle	E6763	4	19.40	£	77.60
5	Black Net Bag for E6745F net frame	E6745	2	15.70	£	31.40
					£	-
					£	-
					£	-
					£	-
					£	-
					£	-
					£	-
					£	-
					£	-
					£	-

SUBTOTAL	£	175.28
TAX RATE	£	-
TAX	£	35.06
S & H	£	59.95
OTHER	£	-
TOTAL	£	270.29

Other Comments or Special Instructions

Request Order Be Expedited, If possible to Arrive in Country by 23 June, at the latest

(9)(q)

Date

AEP Director

Date

(9)(q)

Please send invoice directly to invoices@metabiota.com for payment.

GBP 235.23 = USD 365.49
10.96
US$ 376.45

TO 2 - #3a

Subject: (b)(6) Order CG410480005111 : Order Shipped Email
Date: Thursday, June 11, 2015 at 1:28:46 AM Pac fic Daylight Time
From: sales@watdon.co.uk
To: (b)(6)

Dear (b)(6)

Thank you for ordering from Watkins & Doncaster. We hope you found our site easy to use and will visit us again.
The following order has been shipped to your delivery address:

__Invoice Address_____

Email Address: (b)(6)

__Customer Details_____

(b)(6)
1 Sutter Street
Suite 600
San Francisco
CA
94104
United States
Phone Number: +1 415-601-0230
Fax Number:

__Deliver To_____

Email Address: (b)(6)

__Recipient Details_____

(b)(6)
29/6 Satpayev Str
5th Floor
Almaty
050040
Kazakhstan
Phone Number: +7 727 2980225
Fax Number:

__Order Status_____

Order Number: CG410480005111
Shipping Method: Rest of the world Zone 12 - value TBC
Payment Status: Full Payment Received
Date Received: 9/6/2015 23:31 GMT
Payment Method: Card payments through Sellerdeck

__Lines Ordered_____

TD 2 #36

REF	DESCRIPTION	QUANTITY	PRICE	COST
E671F	Pocket spring-steel net frame	2	£8.64	£17.28
	No. Shipped 2			
E672	Black net bag for E671F	2	£7.70	£15.40
	No. Shipped 2			
E6745F	50cm (20") Fourfold net - frame only	2	£16.80	£33.60
	No. Shipped 2			
E6763	Telescopic net handle	4	£19.40	£77.60
	No Shipped 4			
E6745	Black net bag for 50cm frame	2	£15.70	£31.40
	No. Shipped 2			

Totals

Subtotal: £175.28
Shipping & Handling: £59.95
Total: £235.23

Sincerely,

(b)(6)

P O Box 114
Leominster
Herefordshire
HR6 6BS
United Kingdom (mainland)
+44 (0)333 800 3133
+44 (0)1568 750409
sales@watdon.co.uk

P O Box 114
Leominster
Herefordshire
HR6 6BS
United Kingdom (mainland)
+44 (0)333 800 3133
+44 (0)1568 750409
sales@watdon.co.uk

TD 2 3c

Alpha Diagnostics Intl. Inc.
San Antonio, TX 78244 USA
TAX ID#74-2724193
DUNS#86-7257149

ALPHA DIAGNOSTIC INTERNATIONAL

Invoice

Date	Invoice
8/18/2015	99771

Bill To

Metabiota, Inc (415) 398-4712
Attn Accounts Payable
425 California St.
San Francisco, CA 94104

Ship To

SAIC, DTRA CLS Warehouse
Attn: (b)(6)
1051 Sheller Dr. Ste.C
Chambersburg, PA 17201
Ph: 415-398-4712

P.O. Number	Terms	Rep	Ship	Via	F.O.B.
AEP030	Prepayment	ZH	8/18/2015	Federal Ex...	

Quantity	Item Code	Description	Price Each	Amount
5	RV-402210-1	Recombivirus Camel Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 1 (S1) antibody (IgG) ELISA kit, 96 tests	645.00	3,225.00
	DIS-05	Bulk Customer Discount, *(Quote#91046AEO)	-5.00%	-161.25
	SHC	Packing & Shipping Charges by FedEx Tracking#	65.00	65.00
	Wire-BOA	Bank Name & Address: BANK OF AMERICA 5101 E Walzem Rd,San Antonio, TX 78218 USA Phone#210-653-4330 Co Name: Alpha Diagnostic Intl. Inc Bank Account#1861421015; ABA#0260-0959-3, CHIPS Address:0959, SWIFT Code:BOFAUS3N.	0.00	0.00
		Texas Sales Tax	8.125%	0.00

Phone #	Fax #	E-mail	Payments/Credits	$0.00
210-561-9515	210-561-9544	zainab@4adi.com	Balance Due	$3,128.75

TD 2 - #4

Clements Worldwide
One Thomas Circle,NW 8th Floor
Washington, DC 20005
Phone: 202-872-0060

INVOICE NO. 280816

ACCOUNT NO.	OP	DATE
GLOBA-6	SE	08/06/2015

Workers Compensation

COMPANY
ACE USA

Metabiota, Inc
Robert Mann
One Sutter Ste 600
San Fransico, CA 94104

itm #	Eff Date	Trn	Type	Policy #	Description		Amount
99WWT9	12/22/14	+EN	WC-F	ENID37429193	Endorsement 512 14-15	ACE USA	$372.00
					Invoice Balance:		$372.00

*** PLEASE RETURN ONE COPY WITH YOUR REMITTANCE ***

TD 2 # 5
DM

ITINERARY & RECEIPT

YOUR TRIP: LAX DCA
CONFIRMATION: JKCWZX

ITINERARY
One Way , Los Angeles to Washington

DATES
Jun 22

WHO'S FLYING?

GUEST(S)	TICKET NUMBER	FREQUENT FLIER PROGRAM	FREQUENT FLIER #	POINTS
(b)(6) ADULT	9842142887537	-	-	0

DEPARTING FLIGHT 878

LAX	DCA	DATE	CABIN
12:25 PM	9:59 PM	Mon, 06/22/2015	Main Cabin

GUESTS
(b)(6)

DEPARTING SEAT
Not Selected

TD 2 # 1a
Travel

PAYMENT INFORMATION

BILLING ADDRESS

(b)(6)

TRANSACTION SUMMARY

Original Transaction: Jun 22, 2015	$481.10

PRICE DETAILS

Base Fare (x1)	$434.42
Federal Excise Tax	$32.58
Domestic Taxes and Fees	
Segment Fee	$4.00
Passenger Facility Charge	$4.50
September 11th Security Fee	$5.60
Total for 1 person	**$481.10**

BAGGAGE INFORMATION

Guests are welcome to bring aboard: one (1) personal item and one (1) carry on item that does not exceed 20 pounds. A checked bags may have a maximum size of 62 linear inches, which is calculated by adding the length plus the width plus the height.

Main Cabin Guests are invited to check one (1) bag up to ten (10) bags up to 50 pounds for a fee of $25 each. Main Cabin Select Guests and Guests who purchase the fully refundable Main Cabin fare are invited to check one (1) bag up to 50 pounds free of charge and nine (9) more up to 50pounds for a fee of $25 each. First Class Cabin guests are welcome to check two (2) bags up to 50 pounds free of charge and eight (8) more up to 50 pounds for $25 each.

And on behalf of the TSA, when traveling with gels or liquids, remember the 3-1-1 rule. First: bottles may only be 3 oz. or smaller in size. Second: they must be carried in only one 1 quart plastic bag. If you need to bring anything else, pack it in your checked luggage. We'd hate to see you lose anything when going through security.

FARE RULES AND RESTRICTIONS

For all fare levels, upgrade charges are inclusive of applicable taxes and fees. Fares and availability are not guaranteed until purchase. Security regulations may require us to provide government agencies access to data you disclose to us.

If you need to adjust your schedule, you can make changes and cancellations via our website until 30 minutes prior to departure time or contact our call center until departure. Change/cancel fees may apply.

If you think you'll miss your flight or simply need to cancel, you have until your flight's departure time to notify us and get a credit minus a cancel fee or a refund if a refundable fare was purchased. If you don't contact our call center or inform our ticket counter that you will miss your flight, we will enforce our no show rules.

Upon failure to check in, Virgin America will cancel that flight reservation and all subsequent segments for continuing or return flights. On non-

TD 2 #16

Printable Version

ETICKET RECEIPT IS ATTACHED
******* PLEASE REVIEW YOUR ITINERARY CAREFULLY*******
DISCREPANCIES MUST BE BROUGHT TO OUR ATTENTION WITHIN 24 HOURS.
AFTER THAT TIME, ANY PENALTIES INCURRED DUE TO CHANGES ARE THE RESPONSIBILITY OF THE TRAVELER.

Kentlands Travel

UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone (301) 948-2448

METABIOTA@UNIGLOBEKENTLANDS.COM

Passenger(s):	(b)(6)	**Booking Ref.:**	YZ236Y
Invoice No.:	70098	**Agent:**	(b)(6)
Issue Date:	Tuesday, August 4, 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

- If you would like to view your reservation online: Click Here
- For Aircraft Disinsection Requirements: Click Here

AIR - Monday September 7 2015

Delta Air Lines Flight DL9645 Economy Class
Operated By Klm Royal Dutch Airlines
Check In With KLM Royal Dutch Airlines (KL604)

Check In Confirmation: HWP7XY

Depart:	5:00 PM, Monday, September 7 Los Angeles Intl. Airport-Terminal B Los Angeles, California, USA	**Arrive:**	12:15 PM, Tuesday, September 8 Schiphol Airport Amsterdam, Netherlands
Status:	Confirmed		
Booking Code:	V (Economy)		
Equipment:	Boeing 747 Mixed Configuration	**Stops:**	Non-stop
Duration:	10 hours 15 minutes	**Seat:**	36H (Non smoking) Confirmed
FF Number:	DL2652880184	**Meal:**	Dinner

Weather Flight Status (up to 3 days prior)

AIR - Tuesday September 8 2015

Delta Air Lines Flight DL9584 Economy Class
Operated By Klm Royal Dutch Airlines
Check In With KLM Royal Dutch Airlines (KL409)

Check In Confirmation: HWP7XY

Depart:	3:25 PM, Tuesday, September 8 Schiphol Airport Amsterdam, Netherlands	**Arrive:**	2:00 AM, Wednesday, September 9 Almaty Airport Almaty, Kazakhstan
Status:	Confirmed		
Booking Code:	V (Economy)		
Equipment:	Airbus Industrie A330-200	**Stops:**	Non-stop
Duration:	6 hours 35 minutes	**Seat:**	22D (Non smoking) Confirmed
FF Number:	DL2652880184	**Meal:**	Dinner

Weather Flight Status (up to 3 days prior)

AIR - Saturday September 19 2015

Delta Air Lines Flight DL9342 Economy Class

Check In Confirmation:

TD 2#2a

Operated By Klm Royal Dutch Airlines HWP7XY
Check In With KLM Royal Dutch Airlines (KL410)

Depart:	4:10 AM. Saturday, September 19 Almaty Airport Almaty, Kazakhstan	**Arrive:**	7 25 AM Saturday, September 19 Schiphol Airport Amsterdam Netherlands
Status:	Confirmed		
Booking Code:	K (Economy)		
Equipment:	Airbus Industrie A330-200	**Stops:**	Non-stop
Duration:	7 hours 15 minutes	**Seat:**	35B (Non smoking) Confirmed
FF Number:	DL2652880184	**Meal:**	Breakfast

Weather Flight Status *(Up to 3 days prior)*

AIR - Saturday September 19 2015

Delta Air Lines Flight DL9378 Economy Class **Check In Confirmation:**
Operated By Klm Royal Dutch Airlines HWP7XY
Check In With KLM Royal Dutch Airlines (KL601)

Depart:	9 50 AM Saturday September 19 Schiphol Airport Amsterdam, Netherlands	**Arrive:**	11 45 AM Saturday, September 19 Los Angeles Intl. Airport-Terminal B Los Angeles, California, USA
Status:	Confirmed		
Booking Code:	K (Economy)		
Equipment:	Boeing 747 Mixed Configuration	**Stops:**	Non-stop
Duration:	10 hours 55 minutes	**Seat:**	32A (Non smoking) Confirmed
FF Number:	DL2652880184	**Meal:**	Breakfast

Weather Flight Status *(Up to 3 days prior)*

Invoice Details

Transaction / Document		Base	Tax	Total
Delta Air Lines / 006 7707226258		740.00	598.01	1338.01
	Form of Payment AX XXXXXXXXXXXX1055			
Processing Fee / 890 0658599956		43.00		43 00
	Form of Payment AX XXXXXXXXXXXX1055			
	Totals:	783.00	598.01	USD 1381.01

Total Charged to Credit Card: USD 1381.01
Balance Due: USD 0.00

Fare Rules

• Airline policy - Fare is not guaranteed until ticketed This ticket is non refundable and non transferable. Changes are subject to fare Upgrade and change fee. Missing your flight without cancellation may result in the forfeiture of the value of your airline ticket.

Baggage Fees & Allowances

Baggage allowance, specific size and weight restrictions vary between airlines Please visit the link below to view the allowances and possible fees for your trip.

- Baggage Fees/Allowances

Important Information

• Your reservation number with Delta Air Lines is HWP7XY Delta Air L nes contact phone number is 1-800-221-1212. $1338.01

• Please check in at least 3 hours prior to departure. Late checkin may result in the loss of seat/reservation check in cut off time varies per carrier. Confirm with your carrier to avoid denied boarding

• A valid passport is required for your journey. Passport must be valid at least 6 months beyond intended stay

• Passengers may carry travel sized toiletries or liquids 3 oz or less through security check points. They must fit in one quart sized, clear plastic

TD 2 # 26

Printable Version

ETICKET RECEIPT IS ATTACHED
******** PLEASE REVIEW YOUR ITINERARY CAREFULLY********
DISCREPANCIES MUST BE BROUGHT TO OUR ATTENTION WITHIN 24 HOURS.
AFTER THAT TIME, ANY PENALTIES INCURRED DUE TO CHANGES ARE THE RESPONSIBILITY OF THE TRAVELER.

Kentlands Travel

UNICLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone (301) 948-2448

METABIOTA@UNICLOBEKENTLANDS.COM

Passenger(s):	(b)(6)	**Booking Ref.:**	3AVX8O
Invoice No.:	71593-71594	**Agent:**	(b)(6)
Issue Date:	Tuesday, September 22, 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

• If you would like to view your reservation online with Check My Trip, Click Here

• For Aircraft Disinsection Requirements: Click Here

AIR - Wednesday December 2 2015

Air China Flight CA976 Economy Class — **Check In Confirmation: MKV8BX**

Depart:	9:30 AM, Wednesday, December 2 Changi Airport-Terminal 1 Singapore, Singapore	**Arrive:**	3:30 PM, Wednesday, December 2 Capital Airport-Terminal 3 Beijing, China
Status:	Confirmed		
Booking Code:	V (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 0 minutes	**Seat:**	40C (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

Weather | Flight Status (up to 3 days prior)

AIR - Wednesday December 2 2015

Hainan Airlines Flight HU7933 Economy Class — **Check In Confirmation: MKV8BX**

Depart:	7:00 PM, Wednesday, December 2 Capital Airport-Terminal 2 Beijing, China	**Arrive:**	10:20 PM, Wednesday, December 2 Almaty Airport Almaty, Kazakhstan
Status:	Confirmed		
Booking Code:	L (Economy)		
Equipment:	Boeing 737-800	**Stops:**	Non-stop
Duration:	5 hours 20 minutes	**Seat:**	37C (Non smoking) Confirmed
Meal:	None		
Remarks:	Not eligible for web check in		

Weather | Flight Status (up to 3 days prior)

AIR - Saturday December 12 2015

133*4 = 532
346.02 +
$878.02

TD 2 # 3a

Air Astana Flight KC909 Economy Class — **Check In Confirmation:** 3AVX8O

Depart:	12:55 AM, Saturday, December 12 Almaty Airport Almaty, Kazakhstan	**Arrive:**	9:30 AM, Saturday, December 12 Incheon Intl. Airport Seoul, Korea
Status:	Confirmed		
Booking Code:	T (Economy)		
Equipment:	Boeing 767	**Stops:**	Non-stop
Duration:	5 hours 35 minutes	**Seat:**	13D (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

Weather | Flight Status *(up to 3 days prior)*

AIR - Saturday December 12 2015

Asiana Airlines Flight OZ761 Economy Class — **Check In Confirmation:** 3AVX8O

Depart:	4:10 PM, Saturday, December 12 Incheon Intl. Airport Seoul, Korea	**Arrive:**	9:30 PM, Saturday, December 12 Changi Airport-Terminal 3 Singapore, Singapore
Status:	Confirmed		
Booking Code:	S (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 20 minutes	**Seat:**	25J (Non smoking, Aisle) Confirmed
Meal:	Snack or Brunch		
Remarks:	Not eligible for web check in		

Weather | Flight Status *(up to 3 days prior)* | Dining Reservations

Invoice Details

Transaction / Document	Base	Tax	Total
New E-Ticket / 999 7713233121 Exchanged Ticket / 999 7627418380	708.00	185.43	893.43
	Form of Payment: AX XXXXXXXXXXXX1055		
New E-Ticket / 465 7713233123 Exchanged Ticket / 465 7627418391	538.00	94.68	632.68
	Form of Payment: AX XXXXXXXXXXXX1055		
Processing Fee / 890 0658919473	43.00		43.00
	Form of Payment: AX XXXXXXXXXXXX1055		
Value Of Original Ticket, Document Number: / 999-7627418380	-916.60		-916.60
	Form of Payment: Billed To AX XXXXXXXXXXXX1055		
Change Fee	63.17		63.17
	Form of Payment: Billed To AX XXXXXXXXXXXX1055		
Value Of Original Ticket, Document Number: / 465-7627418391	-687.57		-687.57
	Form of Payment: Billed To AX XXXXXXXXXXXX1055		
Change Fee	104.89		104.89
	Form of Payment: Billed To AX XXXXXXXXXXXX1055		
Totals:	1457.06	280.11	USD 133.00

Less Credits or Refunds:	USD -1604.17
Total Charged to Credit Card:	USD 133.00
Balance Due:	USD 0.00

Fare Rules

• Airline policy - Fare is not guaranteed until ticketed. This ticket is non refundable and non transferable. Changes are subject to fare Upgrade

TD 2 # 36

Printable Version

ETICKET RECEIPT IS ATTACHED
******** PLEASE REVIEW YOUR ITINERARY CAREFULLY********
DISCREPANCIES MUST BE BROUGHT TO OUR ATTENTION WITHIN 24 HOURS.
AFTER THAT TIME, ANY PENALTIES INCURRED DUE TO CHANGES ARE THE RESPONSIBILITY OF THE TRAVELER.

Kentlands Travel

UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone (301) 948-2448

METABICTA@UNIGLOBEKENTLANDS.COM

Passenger(s):	(b)(6)	**Booking Ref.:**	YZ236Y
Invoice No.:	71606	**Agent:**	(b)(6)
Issue Date:	Tuesday, September 22, 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

- If you would like to view your reservation online with Check My Trip: Click Here
- For Aircraft Disinsection Requirements: Click Here

AIR - Monday November 30 2015

Delta Air Lines Flight DL9379 Economy Class
Operated By Klm Royal Dutch Airlines
Check In With KLM Royal Dutch Airlines (KL602)

Check In Confirmation: HWP7XY

Depart:	1:45 PM, Monday, November 30 Los Angeles Intl. Airport-Terminal B Los Angeles, California, USA	**Arrive:**	9:05 AM, Tuesday, December 1 Schiphol Airport Amsterdam, Netherlands
Status:	Confirmed		
Booking Code:	K (Economy)		
Equipment:	Boeing 747 Mixed Configuration	**Stops:**	Non-stop
Duration:	10 hours 20 minutes	**Seat:**	30H (Non smoking) Confirmed
Meal:	Lunch		

Weather Flight Status *(up to 3 days prior)*

AIR - Tuesday December 1 2015

Delta Air Lines Flight DL9584 Economy Class
Operated By Klm Royal Dutch Airlines
Check In With KLM Royal Dutch Airlines (KL409)

Check In Confirmation: HWP7XY

Depart:	3:10 PM, Tuesday, December 1 Schiphol Airport Amsterdam, Netherlands	**Arrive:**	2:45 AM, Wednesday, December 2 Almaty Airport Almaty, Kazakhstan
Status:	Confirmed		
Booking Code:	K (Economy)		
Equipment:	Airbus Industrie A330-200	**Stops:**	Non-stop
Duration:	6 hours 35 minutes	**Seat:**	20D (Non smoking) Confirmed
Meal:	Dinner		

Weather Flight Status *(up to 3 days prior)*

AIR - Saturday December 12 2015

Delta Air Lines Flight DL9342 Economy Class

Check In Confirmation:

TD 2 # 3C

Operated By Klm Royal Dutch Airlines HWP7XY
Check In With KLM Royal Dutch Airlines (KL410)

Depart:	4:45 AM, Saturday, December 12 Almaty Airport Almaty, Kazakhstan	**Arrive:**	7:25 AM, Saturday, December 12 Schiphol Airport Amsterdam, Netherlands
Status:	Confirmed		
Booking Code:	U (Economy)		
Equipment:	Airbus Industrie A330-200	**Stops:**	Non-stop
Duration:	7 hours 40 minutes	**Seat:**	22B (Non smoking) Confirmed
Meal:	Breakfast		

Weather **Flight Status** *(up to 3 days prior)*

AIR - Saturday December 12 2015

Delta Air Lines Flight DL9378 Economy Class **Check In Confirmation:**
Operated By Klm Royal Dutch Airlines HWP7XY
Check In With KLM Royal Dutch Airlines (KL601)

Depart:	9:50 AM, Saturday, December 12 Schiphol Airport Amsterdam, Netherlands	**Arrive:**	11:45 AM, Saturday, December 12 Los Angeles Intl. Airport-Terminal B Los Angeles, California, USA
Status:	Confirmed		
Booking Code:	U (Economy)		
Equipment:	Boeing 747	**Stops:**	Non-stop
Duration:	10 hours 55 minutes	**Seat:**	30H (Non smoking) Confirmed
Meal:	Breakfast		

Weather **Flight Status** *(up to 3 days prior)*

Invoice Details

Transaction / Document		Base	Tax	Total
New E-Ticket / 006 7713233133 Exchanged Ticket / 006 7707226258		747.00	594.03	1341.03
	Form of Payment: AX XXXXXXXXXXXX1055			
Processing Fee / 890 0658928289		43.00		43.00
	Form of Payment: AX XXXXXXXXXXXX1055			
Exchange Ticket Number, Document Number / 006-7707226258 (Gollogly/Carlyle)		-1338.01		-1338.01
	Form of Payment: Billed To Credit Card			
Airline Change Fee (Gollogly/Carlyle)		300.00		300.00
	Form of Payment: Billed To AX XXXXXXXXXXXX1055			
	Totals:	1090.00	594.03	USD 346.02

Total Charged to Credit Card: USD 346.02
Balance Due: USD 0.00

Fare Rules

- Airline policy - Fare is not guaranteed until ticketed. This ticket is non refundable and non transferable. Changes are subject to fare Upgrade and change fee. Missing your flight without cancellation may result in the forfeiture of the value of your airline ticket.

Baggage Fees & Allowances

Baggage allowance, specific size and weight restrictions vary between airlines. Please visit the link below to view the allowances and possible fees for your trip.

- Baggage Fees/Allowances

TD 2#30

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Kentlands Travel

UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone (301) 948-2448

METABIOTA@UNIGLOBEKENTLANDS.COM

Passenger(s):	(b)(6)	**Booking Ref.:**	YENQIQ
Invoice No.:	71591-71592	**Agent:**	(b)(6)
Issue Date:	Tuesday, September 22, 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

- If you would like to view your reservation online with Check My Trip: Click Here
- For Aircraft Disinsection Requirements: Click Here

AIR - Wednesday December 2 2015

Air China Flight CA976 Economy Class — **Check In Confirmation: MG09YX**

Depart:	9:30 AM, Wednesday, December 2 Changi Airport-Terminal 1 Singapore, Singapore	**Arrive:**	3:30 PM, Wednesday, December 2 Capital Airport-Terminal 3 Beijing, China
Status:	Confirmed		
Booking Code:	V (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 0 minutes	**Seat:**	41D (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

Weather Flight Status (Up to 3 days prior)

AIR - Wednesday December 2 2015

Hainan Airlines Flight HU7933 Economy Class — **Check In Confirmation: MG09YX**

Depart:	7:00 PM, Wednesday, December 2 Capital Airport-Terminal 2 Beijing, China	**Arrive:**	10:20 PM, Wednesday, December 2 Almaty Airport Almaty, Kazakhstan
Status:	Confirmed		
Booking Code:	L (Economy)		
Equipment:	Boeing 737-800	**Stops:**	Non-stop
Duration:	5 hours 20 minutes	**Seat:**	37H (Non smoking) Confirmed
Meal:	None		
Remarks:	Not eligible for web check in		

Weather Flight Status (Up to 3 days prior)

AIR - Saturday December 12 2015

TD 2 # 3e

Air Astana Flight KC909 Economy Class — **Check In Confirmation:** YENQIQ

Depart:	12:55 AM, Saturday, December 12 Almaty Airport Almaty, Kazakhstan	**Arrive:**	9:30 AM, Saturday, December 12 Incheon Intl. Airport Seoul, Korea
Status:	Confirmed		
Booking Code:	T (Economy)		
Equipment:	Boeing 767	**Stops:**	Non-stop
Duration:	5 hours 35 minutes	**Seat:**	13C (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

Weather | Flight Status *(up to 3 days prior)*

AIR - Saturday December 12 2015

Asiana Airlines Flight OZ761 Economy Class — **Check In Confirmation:** YENQIQ

Depart:	4:10 PM, Saturday, December 12 Incheon Intl. Airport Seoul, Korea	**Arrive:**	9:30 PM, Saturday, December 12 Changi Airport-Terminal 3 Singapore, Singapore
Status:	Confirmed		
Booking Code:	S (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 20 minutes	**Seat:**	24G (Non smoking, Aisle) Confirmed
Meal:	Snack or Brunch		
Remarks:	Not eligible for web check in		

Weather | Flight Status *(up to 3 days prior)* | Dining Reservations

Invoice Details

Transaction / Document	Base	Tax	Total
New E-Ticket / 999 7713233116 Exchanged Ticket / 999 7627418392	708.00	185.43	893.43
	Form of Payment: AX XXXXXXXXXXXX1055		
New E-Ticket / 465 77 3233120 Exchanged Ticket / 465 7627418393	538.00	94.68	632.68
	Form of Payment: AX XXXXXXXXXXXX1055		
Processing Fee / 890 06589 9472	43.00		43.00
	Form of Payment: AX XXXXXXXXXXXX1055		
Value Of Original Ticket, Document Number: / 999-7627418392	-916.60		-916.60
	Form of Payment: Billed To AX XXXXXXXXXXXX1055		
Change Fee	63.17		63.17
	Form of Payment: Billed To AX XXXXXXXXXXXX1055		
Value Of Original Ticket, Document Number: / 465-7627418393	-687.57		-687.57
	Form of Payment: Billed To AX XXXXXXXXXXXX1055		
Change Fee	104.89		104.89
	Form of Payment: Billed To AX XXXXXXXXXXXX1055		
Totals:	1457.06	280.11	USD 133.00

Less Credits or Refunds:	USD -1604.17
Total Charged to Credit Card:	USD 133.00
Balance Due:	USD 0.00

Fare Rules

- Airline policy - Fare is not guaranteed until ticketed. This ticket is non refundable and non transferable. Changes are subject to fare Upgrade

TD 2#3f

Printable Version

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Kentlands Travel

UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone (301) 948-2448

METABIOTA@UNIGLOBEKENTLANDS.COM

Passenger(s):	(b)(6)	**Booking Ref.:**	YENTCX
Invoice No.:	71604~71605	**Agent:**	Ma[redacted]llace
Issue Date:	Tuesday, September 22, 2015	**Customer:**	MB[redacted]
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

- If you would like to view your reservation online with Check My Trip, Click Here
- For Aircraft Disinsection Requirements: Click Here

AIR - Saturday December 5 2015

Air China Flight CA976 Economy Class — **Check In Confirmation: NE9W7P**

Depart:	9:30 AM, Saturday, December 5 Changi Airport-Terminal 1 Singapore, Singapore	**Arrive:**	3:30 PM, Saturday, December 5 Capital Airport-Terminal 3 Beijing, China
Status:	Confirmed		
Booking Code:	V (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 0 minutes	**Seat:**	43D (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

Weather Flight Status (up to 3 days prior)

AIR - Saturday December 5 2015

Hainan Airlines Flight HU7933 Economy Class — **Check In Confirmation: NE9W7P**

Depart:	7:00 PM, Saturday, December 5 Capital Airport-Terminal 2 Beijing, China	**Arrive:**	10:20 PM, Saturday, December 5 Almaty Airport Almaty, Kazakhstan
Status:	Confirmed		
Booking Code:	L (Economy)		
Equipment:	Boeing 737-800	**Stops:**	Non-stop
Duration:	5 hours 20 minutes	**Seat:**	37H (Non smoking) Confirmed
Meal:	None		
Remarks:	Not eligible for web check in		

Weather Flight Status (up to 3 days prior)

AIR - Saturday December 12 2015

TD 2# 39

Air Astana Flight KC909 Economy Class — **Check In Confirmation:** YENTCX

Depart:	12:55 AM, Saturday, December 12 Almaty Airport Almaty, Kazakhstan	**Arrive:**	9:30 AM, Saturday, December 12 Incheon Intl. Airport Seoul, Korea
Status:	Confirmed		
Booking Code:	T (Economy)		
Equipment:	Boeing 767	**Stops:**	Non-stop
Duration:	5 hours 35 minutes	**Seat:**	14D (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

Weather **Flight Status** *(up to 3 days prior)*

AIR - Saturday December 12 2015

Asiana Airlines Flight OZ761 Economy Class — **Check In Confirmation:** YENTCX

Depart:	4:10 PM, Saturday, December 12 Incheon Intl. Airport Seoul, Korea	**Arrive:**	9:30 PM, Saturday, December 12 Changi Airport-Terminal 3 Singapore, Singapore
Status:	Confirmed		
Booking Code:	S (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 20 minutes	**Seat:**	24B (Non smoking, Aisle) Confirmed
Meal:	Snack or Brunch		
Remarks:	Not eligible for web check in		

Weather **Flight Status** *(up to 3 days prior)* **Dining Reservations**

Invoice Details

Transaction / Document	Base	Tax	Total
New E-Ticket / 999 7713233131 Exchanged Ticket / 999 7627418396	708.00	185.43	893.43
	Form of Payment: AX XXXXXXXXXXXX1055		
New E-Ticket / 465 7713233132 Exchanged Ticket / 465 7627418397	538.00	94.68	632.68
	Form of Payment: AX XXXXXXXXXXXX1055		
Processing Fee / 890 0658928288	43.00		43.00
	Form of Payment: AX XXXXXXXXXXXX1055		
Value Of Original Ticket, Document Number: / 999-7627418396	-916.60		-916.60
	Form of Payment: Billed To AX XXXXXXXXXXXX1055		
Change Fee	63.17		63.17
	Form of Payment: Billed To AX XXXXXXXXXXXX1055		
Value Of Original Ticket, Document Number: / 465-7627418397	-687.57		-687.57
	Form of Payment: Billed To AX XXXXXXXXXXXX1055		
Change Fee	104.89		104.89
	Form of Payment: Billed To AX XXXXXXXXXXXX1055		
Totals:	1457.05	280.11	USD 133.00

Less Credits or Refunds:	USD -1604.17
Total Charged to Credit Card:	USD 133.00
Balance Due:	USD 0.00

Fare Rules

- Airline policy - Fare is not guaranteed until ticketed. This ticket is non refundable and non transferable. Changes are subject to fare Upgrade

TD 2#3h

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Kentlands Travel

UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone (301) 948-2448

METABIOTA@UNIGLOBEKENTLANDS.COM

Passenger(s):	(b)(6)	**Booking Ref.:**	YENSVG
Invoice No.:	71599-71600	**Agent:**	Marti Wallace
Issue Date:	Tuesday, September 22, 2015	**Customer:**	M6A
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

- If you would like to view your reservation online with Check My Trip, Click Here
- For Aircraft Disinsection Requirements: Click Here

AIR - Saturday December 5 2015

Air China Flight CA976 Economy Class — **Check In Confirmation: NE9W35**

Depart:	9:30 AM, Saturday, December 5 Changi Airport-Terminal 1 Singapore, Singapore	**Arrive:**	3:30 PM, Saturday, December 5 Capital Airport-Terminal 3 Beijing, China
Status:	Confirmed		
Booking Code:	V (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 0 minutes	**Seat:**	42D (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

Weather | Flight Status *(up to 3 days prior)*

AIR - Saturday December 5 2015

Hainan Airlines Flight HU7933 Economy Class — **Check In Confirmation: NE9W35**

Depart:	7:00 PM, Saturday, December 5 Capital Airport-Terminal 2 Beijing, China	**Arrive:**	10:20 PM, Saturday, December 5 Almaty Airport Almaty, Kazakhstan
Status:	Confirmed		
Booking Code:	L (Economy)		
Equipment:	Boeing 737-800	**Stops:**	Non-stop
Duration:	5 hours 20 minutes	**Seat:**	37C (Non smoking) Confirmed
Meal:	None		
Remarks:	Not eligible for web check in		

Weather | Flight Status *(up to 3 days prior)*

AIR - Saturday December 12 2015

TD 2 #31

Air Astana Flight KC909 Economy Class — **Check In Confirmation:** YENSVG

Depart:	12:55 AM, Saturday, December 12 Almaty Airport Almaty, Kazakhstan	**Arrive:**	9:30 AM, Saturday, December 12 Incheon Intl. Airport Seoul, Korea
Status:	Confirmed		
Booking Code:	T (Economy)		
Equipment:	Boeing 767	**Stops:**	Non-stop
Duration:	5 hours 35 minutes	**Seat:**	14C (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

Weather | Flight Status *(up to 3 days prior)*

AIR - Saturday December 12 2015

Asiana Airlines Flight OZ751 Economy Class — **Check In Confirmation:** YENSVG

Depart:	4:10 PM, Saturday, December 12 Incheon Intl. Airport Seoul, Korea	**Arrive:**	9:30 PM, Saturday, December 12 Changi Airport-Terminal 3 Singapore, Singapore
Status:	Confirmed		
Booking Code:	S (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 20 minutes	**Seat:**	22D (Non smoking, Aisle) Confirmed
Meal:	Snack or Brunch		
Remarks:	Not eligible for web check in		

Weather | Flight Status *(up to 3 days prior)* | Dining Reservations

Invoice Details

Transaction / Document	Base	Tax	Total
New E-Ticket / 999 7713233128 Exchanged Ticket / 999 7627418394	708.00	185.43	893.43
	Form of Payment: AX XXXXXXXXXXXX1055		
New E-Ticket / 465 7713233129 Exchanged Ticket / 465 7627418395	538.00	94.68	632.68
	Form of Payment: AX XXXXXXXXXXXX1055		
Processing Fee / 890 0658928284	43.00		43.00
	Form of Payment: AX XXXXXXXXXXXX1055		
Value Of Original Ticket, Document Number / 999-7627418394	-916.60		-916.60
	Form of Payment: Billed To AX XXXXXXXXXXXX1055		
Change Fee	63.17		63.17
	Form of Payment: Billed To AX XXXXXXXXXXXX1055		
Value Of Original Ticket, Document Number / 465-7627418395	-687.57		-687.57
	Form of Payment: Billed To AX XXXXXXXXXXXX1055		
Change Fee	104.89		104.89
	Form of Payment: Billed To AX XXXXXXXXXXXX1055		
Totals:	1457.06	280.11	USD 133.00

Less Credits or Refunds:	USD -1604.17
Total Charged to Credit Card:	USD 133.00
Balance Due:	USD 0.00

Fare Rules

- Airline policy - Fare is not guaranteed until ticketed. This ticket is non refundable and non transferable. Changes are subject to fare Upgrade

TD 2#3j

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UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone: (301) 948-2448

METABIOTA@UNIGLOBEKENTLANDS.COM

Passenger(s):	(b)(6)	**Booking Ref.:**	YENTQ6
Invoice No.:	69830-69832	**Agent:**	(b)(6)
Issue Date:	Thursday, July 23, 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

- If you would like to view your reservation online, Click Here
- For Aircraft Disinsection Requirements: Click Here

AIR - Saturday September 12 2015

Air China Flight CA976 Economy Class — **Check In Confirmation: MCL0ZE**

Depart:	9:30 AM, Saturday, September 12 Changi Airport-Terminal 1 Singapore, Singapore	**Arrive:**	3:30 PM, Saturday, September 12 Capital Airport-Terminal 3 Beijing, China
Status:	Confirmed		
Booking Code:	V (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 0 minutes	**Seat:**	47D (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

Weather Flight Status *(up to 3 days prior)*

AIR - Saturday September 12 2015

Hainan Airlines Flight HU7933 Economy Class — **Check In Confirmation: MCL0ZE**

Depart:	7:10 PM, Saturday, September 12 Capital Airport-Terminal 2 Beijing, China	**Arrive:**	10:30 PM, Saturday, September 12 Almaty Airport Almaty, Kazakhstan
Status:	Confirmed		
Booking Code:	L (Economy)		
Equipment:	Boeing 737-800	**Stops:**	Non-stop
Duration:	5 hours 20 minutes	**Seat:**	38C (Non smoking, Aisle) Confirmed
Meal:	Dinner		
Remarks:	Not eligible for web check in		

Weather Flight Status *(up to 3 days prior)*

AIR - Saturday September 19 2015

43 * 3 = $129

TD 2#4a

x Air Astana Flight KC909 Economy Class

Check In Confirmation: YENTQ6

Depart:	1:50 AM, Saturday September 19 Almaty Airport Almaty, Kazakhstan	**Arrive:**	10:30 AM, Saturday, September 19 Incheon Intl. Airport Seoul, Korea
Status:	Confirmed		
Booking Code:	T (Economy)		
Equipment:	Boeing 767	**Stops:**	Non-stop
Duration:	5 hours 40 minutes	**Seat:**	13F (Non smoking, Aisle) Confirmed
Meal:	Meal		
Remarks:	Not eligible for web check in		

Weather Flight Status *(up to 3 days prior)*

AIR - Saturday September 19 2015

Asiana Airlines Flight OZ761 Economy Class

Check In Confirmation: YENTQ6

Depart:	4:10 PM, Saturday, September 19 Incheon Intl. Airport Seoul, Korea	**Arrive:**	9:30 PM, Saturday, September 19 Changi Airport-Terminal 3 Singapore, Singapore
Status:	Confirmed		
Booking Code:	S (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 20 minutes	**Seat:**	27D (Non smoking, Aisle) Confirmed
Meal:	Snack or Brunch		
Remarks:	Not eligible for web check in		

Weather Flight Status *(up to 3 days prior)* Dining Reservations

Invoice Details

Transaction / Document		Base	Tax	Total
Air China / 999 7627418444		724.00	192.60	916.60
	Form of Payment: VI XXXXXXXXXXXX2277			
Air Astana / 465 7627418446		597.00	99.76	696.76
	Form of Payment: VI XXXXXXXXXXXX2277			
Processing Fee / 890 0658531715		43.00		43.00
	Form of Payment: VI XXXXXXXXXXXX2277			
	Totals:	1364.00	292.36	USD 1656.36

Total Charged to Credit Card: USD 1656.36

Balance Due: USD 0.00

Fare Rules

• Airline policy - Fare is not guaranteed until ticketed. This ticket is non refundable and non transferable. Changes are subject to fare Upgrade and charge fee. Missing your flight without cancellation may result in the forfeiture of the value of your airline ticket.

Baggage Fees & Allowances

Baggage charges may apply. Baggage allowance, specific size and weight restrictions vary between airlines. Please visit the airline's website or contact the airline directly for details.

- Air China or call 1-800-986-1985
- Asiana Airlines or call 1-800-227-4262
- We don't have a link to the airline website for Hainan Airlines, Air Astana. Please go to http://www.kls2.com/airlines/ and click on the website of the airline which you are travelling

Important Information

• Your reservation number with Air China is MCL0ZE.

TD 2#46

TD 2# 4c

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Kentlands Travel

UNIGLOBE Kentlands Travel
60 Market Street Suite 203
Gaithersburg, MD 20878
Phone (301) 948 2448

METABIOTA@UNIGLOBEKENTLANDS.COM

Passenger(s):	(b)(6)	**Booking Ref.:**	637A8I
Invoice No.:	58794	**Agent:**	(b)(6)
Issue Date:	Wednesday, June 10, 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

• If you would like to view your reservation online, Click Here

• For Aircraft Disinsection Requirements: Click Here

AIR - Wednesday June 24 2015

United Airlines Flight UA932 Economy Class

Check In Confirmation: I3M2B4 *(*24 Hours Prior)*

Depart:	10:00 PM, Wednesday, June 24 Dulles Intl Airport Washington, Dist. of Columbia, USA	**Arrive:**	12:00 PM, Thursday, June 25 Frankfurt Intl. Airport-Terminal 1 Frankfurt, Germany
Status:	Confirmed		
Booking Code:	L (Economy)		
Equipment:	Boeing 777	**Stops:**	Non-stop
Duration:	8 hours 0 minutes	**Seat:**	43D (Non smoking) Confirmed
FF Number:	UAHTH31263	**Meal:**	Dinner

Weather | Flight Status *(up to 3 days prior)* | Dining Reservations

AIR - Thursday June 25 2015

United Airlines Flight UA9116 Economy Class
Operated By Lufthansa
Check In With Lufthansa (LH648)

Check In Confirmation: I3M2B4

Depart:	1:25 PM, Thursday, June 25 Frankfurt Intl. Airport-Terminal 1 Frankfurt, Germany	**Arrive:**	11:55 PM, Thursday, June 25 Almaty Airport Almaty, Kazakhstan
Status:	Confirmed		
Booking Code:	L (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	6 hours 30 minutes	**Seat:**	Assigned At Check-In
FF Number:	UAHTH31263	**Meal:**	Cold Meal
Remarks:	Seat assigned at check-in		

Weather | Flight Status *(up to 3 days prior)*

AIR - Sunday July 5 2015

United Airlines Flight UA9117 Economy Class

Check In Confirmation:

TD 2 #4e

Operated By Lufthansa I3M2B4
Check In With Lufthansa (LH647)

Depart:	3:55 AM, Sunday, July 5 Almaty Airport Almaty, Kazakhstan	**Arrive:**	7:00 AM, Sunday, July 5 Frankfurt Intl. Airport-Terminal 1 Frankfurt, Germany
Status:	Confirmed		
Booking Code:	Q (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	7 hours 5 minutes	**Seat:**	31D (Non smoking Aisle) Confirmed
FF Number:	UAHTH31263	**Meal:**	Cold Meal

Weather | Flight Status (up to 3 days prior) | Dining Reservations

AIR - Sunday July 5 2015

United Airlines Flight UA8832 Economy Class **Check In Confirmation:**
Operated By Lufthansa I3M2B4
Check In With Lufthansa (LH416)

Depart:	10:45 AM, Sunday, July 5 Frankfurt Intl Airport-Terminal 1 Frankfurt, Germany	**Arrive:**	1:25 PM, Sunday, July 5 Dulles Intl Airport Washington, Dist. of Columbia, USA
Status:	Confirmed		
Booking Code:	Q (Economy)		
Equipment:	Boeing 747-400	**Stops:**	Non-stop
Duration:	8 hours 40 minutes	**Seat:**	38H (Non smoking Aisle) Confirmed
FF Number:	UAHTH31263	**Meal:**	Meal

Weather | Flight Status (up to 3 days prior) | Dining Reservations

Invoice Details

Transaction / Document		Base	Tax	Total
United Airlines / 016 7623303688		1258.00	608.90	1866.90
	Form of Payment: AX XXXXXXXXXXXX2293			
Processing Fee / 890 0658267944		43.00		43.00
	Form of Payment: AX XXXXXXXXXXXX2293			
	Totals:	1301.00	608.90	USD 1909.90

Total Charged to Credit Card: USD 1909.90
Balance Due: USD 0.00

Fare Rules

• Airline policy - Fare is not guaranteed until ticketed. This ticket is non refundable and non transferable. Changes are subject to fare Upgrade and change fee. Missing your flight without cancellation may result in the forfeiture of the value of your airline ticket.

Baggage Fees & Allowances

Baggage allowance, specific size and weight restrictions vary between airlines. Please visit the link below to view the allowances and possible fees for your trip.

- Baggage Fees/Allowances

Important Information

• Your reservation number with United Airlines is I3M2B4. United Airlines contact phone number is 1-800-538-2929.

• Please check in at least 3 hours prior to departure. Late checkin may result in the loss of seat/reservation check in cut off time varies per carrier. Confirm with your carrier to avoid denied boarding.

• A valid passport is required for your journey. Passport must be valid at least 6 months beyond intended stay

• Passengers may carry travel sized toiletries or liquids 3 oz or less through security check points. They must fit in one quart sized, clear plastic

TO 2 # 4 f

CASH RECEIPT

Name of Recipient: (b)(6) - Visa

Purpose of expence Technical Directive 002 - Sample Collection and Diagnostics Training on Middle East Respiratory Syndrome (MERS-CoV) in Camels and Bats in Kazakhstan

Location: Almaty, Kazakhstan

Dates: 26 June – 05 July 2015

Project Number / Charge: TD 002 AEP KZ Clin 1008

Amount (digits and in words): $55 Fifty five dollars

Cost breakdown: Visa cost $55 00

Signature of Recipient:

(b)(6)

Erica Sena Neves

(b)(6)

Date

Approved by:

(b)(6)

Jeffrey Engle

26-6-15

Date

Handled by:

(b)(6)

26/6/15

Date

TD 2# 5a

CASH RECEIPT

Name of Recipient: (b)(6) - Visa

Purpose of expence: Technical Directive 002 - Sample Collection and Diagnostics Training on Middle East Respiratory Syndrome (MERS-CoV) in Camels and Bats in Kazakhstan

Location: Almaty, Kazakhstan

Dates: 26 June – 05 July 2015

Project Number / Charge: TD 002 AEP KZ Clin 1008

Amount (digits and in words): $55 Fifty five dollars

Cost breakdown: Visa cost $55 00

Signature of Recipient:

(b)(6)

Benjamin

(b)(6) 06 2015

Date

(b)(6)

26-6-15

Date

Handled by:

(b)(6)

26/6/15

Date

TD 2#5b

CASH RECEIPT

Name of Recipient: (b)(6)

Purpose of expence: Technical Directive 002 - Sample Collection and Diagnostics Training on Middle East Respiratory Syndrome (MERS-CoV) in Camels and Bats in Kazakhstan

Location: Almaty, Kazakhstan

Dates: 26 June – 05 July 2015

Project Number / Charge: TD 002 AEP KZ Clin 1008

Amount (digits and in words): $55 Fifty five dollars

Cost breakdown: Visa cost $55 00

Signature of Recipient:

(b)(6)

26/06/15

Date

Approved by:

(b)(6)

26-6-15

Date

Handled by:

(b)(6)

26/06/15

Date

TD 2#5C

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA. 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a. TD NUMBER	3b. REV
HDTRA1-14-C-0104	METABIOTA	24	

4. TD TITLE	5. TOTAL TO ESTIMATE
Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East and South Asia	HOURS 160 DOLLARS $ $60,000

6. CONTRACTING OFFICER REPRESENTATIVE	7. CONTRACTOR PM
NAME (b)(6)	NAME (b)(6)
PHONE: 703-767-9137 EMAIL (b)(6)	PHONE 202-412-3970 EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to develop a Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East, South Asia and CBEP collaborations in the CENTOM Region in accordance with SOW section 4.3, Task 3

Metabiota shall develop a 2-5-minute film narrative of the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, which was held at the Royal Scientific Society (RSS) on March 7-8, 2016 in Amman, Jordan. The visual narrative (2-5 minutes) objectives are to document the Jordan conference and describe other science initiatives and the outcomes of CBEP's engagements in the Middle East and South Asia. Metabiota shall develop the specific script in coordination with CBEP CENTCOM regional managers. The footage and interviews that Metabiota has from the conference can be utilized for the visual narrative. The visual narrative should be completed by June 30, 2016. Total costs for the narrative shall not exceed $60,000.

Deliverables:

- A short film narrative of 2-5 minutes on 3 DVDs. Final film must go through Public Affairs Office (PAO) approval at DTRA.

The period of performance for this effort will be from May 1 to June 30, 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $60,000.00 is requested by 19 April. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Phase 1: Proposal Development & Initiation (Task 1)

Metabiota developed a project plan and implementation strategy that aligns with the narrative from Box 8. It is anticipated that the plan for TD-24 is considered a living document, and it is expected that revisions to the plan may be necessary following stakeholder meetings. During proposal development, Metabiota will use Program Manager (PM) and Project Coordinator (PC, billed as a Subject Matter Expert 1) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Metabiota assumes the following:

1. The PoP assigned to this project will allow enough time for PAO approval of the final video. However, if PAO approval extends beyond the project timeframe, Metabiota will work with AEP regional leadership and the COR to adjust the PoP or allow for final approval of the video outside of the project timeframe, as appropriate and within contractual compliance;
2. Production services required for this project will be complete within 3 weeks allowing enough time for PAO approval of the final video. Should services required extend past this timeframe, Metabiota will work with the CBEP CENTCOM regional leads (and COR, if necessary) to adjust the schedule accordingly;
3. Box 8 of TD-24 states that this project will be completed in accordance with section 4.3, Task 3, which refers to Qualified Trainers (QTs). Based on the requirements, Metabiota has replaced Qualified Trainers with Task 4- Subject Matter Experts. Metabiota assumes this will be acceptable in the execution of the project and engagement of SMEs for this effort.

Project Coordination (Task 1)

The Project team will be led by an experienced Program Manager (PM), Carlyle Golloglv, and supported by a highly effective Project Coordinator (PC), Emily Varanay, MPA, to cover Task 1 – Project Coordination. The PM and PC were selected for this project, because they implemented TD-07 the Middle East South Asia Epigenetics and Genomics of Infectious Disease Conference and have the historical knowledge to effectively and efficiently manage the requirements identified for TD-24. In addition, Metabiota will engage Dr. Kavita Berger, PhD, from Gryphon Scientific LLC to assist in narrative development as a SME under Task 4. Dr. Berger was the PI and senior technical implementer on TD-07, working closely with Ms. Gollogly and Ms. Varanay.

Note: The Metabiota PM confirms subcontractor knowledge of the contractual requirements prior to TD approval.

Phase 2: Preparation (Task 1)

Upon TD approval, the PM will establish routine communications with project team members and CBEP to initiate project implementation. The PM will hold a kick-off meeting within 5 days of approval, with participation from the AEP PMO, project team members and key CBEP stakeholders to review project requirements and ensure a mutual understanding of project goals and objectives is realized. The PM and PC will review the project communications plan, schedule, risk register and other items critical to support project implementation during the kickoff. The PM, with assistance from the PC, will identify and engage the videography firm required to execute production of the video. The PM will lead coordination and integration of the project team with CBEP stakeholders to develop the narrative and complete the film.

The project team will ensure that all necessary documentation required prior to initiating tasks is completed correctly and submitted on time, including CTR CLS Form (CDRL A016) and the Monthly Reports (CDRL A001). The project team will work closely with CBEP regional leads, A&AS support

Commented [TREC1]: Recommended redactions (entire document)

Exemption 6: USG personnel names and contact info

staff, and CLS to ensure that all logistics requirements are coordinated and implemented according to the project schedule and contractual requirements. The Metabiota Travel Coordinator will coordinate with the project team to assist in the request of travel requirements supporting this effort and will ensure that travel arrangements are secured, immediately following approval by the COR and in line with the project schedule and execution requirements.

Sub-Phase 2.1: Film Narrative Development and Adaptation (Tasks 1,4)

Metabiota will select and engage a videography firm to produce the film, following sourcing of an appropriate vendor for this engagement. The project team will engage the CBEP regional leads to ensure the technical requirements are clearly determined and will select a service provider at best cost to the government, meeting the requirements identified. Upon engagement of the videography firm, Metabiota will transfer the existing, unedited video footage and interviews collected during the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, held at the Royal Scientific Society (RSS) from 7-8 March 2016 to the firm in order to produce the film. The unedited video footage, interviews, and photographs captured during this event will provide the raw material to effectively and relevantly document the Jordan conference and describe other science initiatives and the outcomes of CBEP's engagements in the Middle East and South Asia. The Metabiota team will work directly with CBEP regional leads and the videography firm to determine the narrative and produce the film.

Sub-Phase 2.2: Coordination for Material Shipment (Task 1)

Shipment of materials and final edited film, if deemed necessary, will be handled via CLS. The project team will deliver the final edited and PAO approved film utilizing the appropriate CLS forms (CDRL A0016 and associated forms) to the CBEP team for appropriate routing, adhering to contract timelines and deliverable schedule. The Metabiota team will work closely with CBEP, A&AS, and CLS staff members to coordinate and execute any logistical requirements, as needed.

Phase 3: Implementation (Tasks 1,4)

The Metabiota Project Team will develop and create a 2-5 minute film narrative of the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, held at the Royal Scientific Society (RSS) on March 7-8, 2016 in Amman, Jordan. The film will be produced in the English language and may include visual frames of speakers on stage, panning of audience, and snapshots of the discussion panels, poster session, and participants asking questions and engaging with speakers. The film may also include short interviews with conference organizers, Scientific Advisory Board members, speakers, presenters, and attendees concerning the importance, relevancy, and benefits of the conference, among other topics. The film will be produced utilizing the technical expertise of the film editors, Metabiota team, and CBEP regional leads to showcase the conference and highlight the scientific initiatives and engagements stemming from this event and CBEP efforts in the region. Suitable background music will be included, as well as sub-titles, if deemed necessary. Metabiota will ensure that the film is adjusted/edited according to guidelines received from CBEP, and other key stakeholders. CLS will be engaged to provide logistical support (CDRL A0016), should it be required for this effort. In addition, Metabiota will ensure PAO approval of the film, and will coordinate with the technical team to address any necessary changes prior to completion and final delivery of the product.

To support implementation efforts, the Metabiota PM will travel to Washington DC for meetings with CBEP regional leads and the project team to develop the narrative and review the video footage. The PM will participate in working sessions, brainstorming, and technical development of the film narrative during scheduled in person meetings to ensure execution of the narrative and completion of the project. In addition, the PM will meet with the videography firm to review performance and completion of tasks associated with this project.

Phase 4: Project Closeout (Task 1)

The project team will close out all activities associated with this project, to include final reporting, invoicing, and submission of all relevant CDRLs according to the outlined schedule. In addition, the project team will contribute to lessons learned conversations with CBEP detailing enhancements that could be made should this type of project be repeated, as necessary and requested by CBEP regional leads. Finally, unedited and edited film and other relevant materials will be provided to CBEP.

9b. BUDGET (USE EMBEDDED TAB'S FOR BUDGET BREAKDOWN)

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$38,933
1003	MATERIALS	$10,695
1004	ODC's	$0
1005	TRAVEL	$2,993
TOTAL		**$52,620.93**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES)

Labor

Costs for direct labor to support this activity is required for the following personnel.

Metabiota Program Manager (PM). The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of CBEP goals in direct support of this activity and the CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the SME 1 to ensure day-to-day activities for the project are completed on time, and to the quality required by CBEP. The PM will participate in routine conference calls and other forms of communication with CBEP regional leads and SMEs to ensure project execution. The PM will oversee the subcontractors on this effort, to include the services provided by the videography company in execution of the film. The PM will ensure all contract CDRLs are met and delivered according to the project timeline, and contract requirements.
LOE: 80 hours

Metabiota Project Coordinator. A SME 1 will act as a Project Coordinator (PC) throughout the planning, execution and close out of project objectives and activities. The PC will support the planning and execution of CBEP objectives towards the completion of project goals by participating in proposal development, stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will participate in routine project communications, to include leading regular coordination calls with the project team, CBEP, the videography company, and other key stakeholders.
LOE: 60 hours

SME 3: Dr. Kavita Berger from Gryphon Scientific will be engaged to support technical development of the film narrative for this project. Having coordinated the MESA Epigenetics and Genomics of Infectious Diseases Conference with the Metabiota team, she is critical in ensuring the conference message is received and communicated through the film. Dr. Berger will work directly with Metabiota and CBEP to develop the narrative, review the footage, and provide subject matter expertise to the team and the production services in development and execution of the film. Should

edits or revisions be required following CBEP and PAO guidelines. Dr. Berger will participate in editing and refining the narrative to be delivered in the final product. Dr. Berger will be responsible for all monthly reporting and deliverables assigned to the Gryphon subcontract by Metabiota in execution of this project.
LOE: 80 hours

Reachback programmatic support to include finance, accounting, and contracts will be provided as part of CLIN 1001 (FFP) and will not be separately invoiced.

Materials
Training Materials: Two (2) external hard drives will be procured to store the photos, raw video footage, and the final edited video

Production Services: Metabiota will engage a videography firm to produce the short video for this effort. This will include identification of sound bites completion of film transcripts, editing, and production of the video

Metabiota will conduct market research and ensure the best price is secured, maintaining quality and technical requirements for all procurement of goods. Metabiota will coordinate directly with CLS for all shipping requirements and will ensure cost management for all procured supplies, as necessary to complete the scope of this effort

Subcontracts
The subcontract with Gryphon Scientific will be modified to include labor hours and materials required for implementation of this project. Costs are captured under the labor and materials budgets.

Travel
Travel costs will be cost reimbursable and provide best cost to the government following JTR regulations. Travel is requested for the PM to meet with the project team, Gryphon SME, CBEP, the videography company, and other key stakeholders to support the execution of Phase 3, and ensure development of the film narrative and completion of the project. The PM will travel to Washington DC to take part in in person meetings, brainstorming activities, narrative development and review of film footage and sound bites developed by the videography company supporting this project.

10. FUNDING AUTHORIZED THIS TD REV.

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL)

11a. FUNDS AUTHORIZED FOR THIS TD REV
$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ $0

12a. CURRENT PERIOD OF PERFORMANCE
01-May-2016 – 15-May-2016

12b. TD REV PERIOD OF PERFORMANCE
01-May-2016 – 15-May-2016

13. CONTRACTOR SIGNATURE AND DATE
Signature _____
Date _____

14. REGION
CENTCOM/ Regional

15. TECHNICAL POINTS OF CONTACT
(b)(6)
CENTCOM Science Lead,
(b)(6) 703-767-5985
CENTCOM Regional Lead,
(b)(6) 3-767-4930

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X
(b)(6)
COR/ JSCTB Program Manager

Commented [TREC2]: ***NOTE - This electronic signature should be highlighted/redacted as well, unable to select it with highlighter***

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

From: (b)(6)
To:
Cc:

Subject: TD-003 Cancellation
Date: Tuesday, August 11, 2015 12:01:09 PM

Hi (b)(6)

This email serves to officially notify you that DTRA has decided to cancel the currently unapproved TD-003.

Cheers.

(b)(6)
Deputy Chief Scientist
Cooperative Biological Engagement Program
Cooperative Threat Reduction
Defense Threat Reduction Agency
(b)(6)

TD004 MESA Epigenetics and Genomics of Infections Disease Workshop

Objectives

Further CBEP Cooperative Biological Research (CBR) objectives through topic focused, poster and training sessions thereby identifying potential partners for future research cooperation, increasing knowledge of specific areas of research educating on best practices in international scientific collaboration.

Period of Performance: 06 01 2015 - 11 30 2015

CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$405,225.00	$22,610.85	$382,614.15
1003	$28,708.44	$0.00	$28,708.44
1004	$5,342.60	$0.00	$5,342.60
1005	$48,764.00	$0.00	$48,764.00
TOTAL	$488,040.04	$22,610.85	$465,429.19

CLIN 1002 – Labor

Following conversations with DTRA CBEP programmatic and contact personnel it was determined that labor costs will not be billed between the period of 2 June and 22 July, as the technical directive had not yet been approved. Costs for direct labor to support this activity was required for the following personnel, supporting proposal development and execution of activities once authorized by the Government:

Program Manager: 13 hours

Metabiota SEA Program Manager, (b)(6) conducted activities during this time period that included proposal development, contracting packages, and coordination with partner organizations to complete the technical and cost proposal. Once approved, (b)(6) engaged in overseeing project personnel in the execution of requirements for implementing the workshop, managing project deliverables, including submission of requirements to CBEP, tracking project requirements, interacting and reporting to CBEP personnel providing project visibility and coordination, financial monitoring, coordination and management of Gryphon Scientific personnel, and coordination with RSS.

Research and Data Analysts: 74 hours

Metabiota Research and Data Analyst, (b)(6) conducted activities during this time period that included supporting proposal development and contract packages in response to the technical directive. Once approved, she was responsible for project coordination for this activity. Activities included day-to-day coordination of the project, routine communication with collaborators, processing of project documents, tracking and review of CDRLs, and travel and logistical support for the pre-coordination meeting scheduled in October. Additional activities included, supporting contractual requirements for engaging Gryphon Scientific and developing the project schedule.

Gryphon's (b)(6) conducted activities during this time period that included identifying experts working in relevant fields and on relevant research through literature review, and assisting in preparation

of workshop documents. Gryphon's (b)(6) conducted activities during this time period that included preparation of sub-contract materials for submission to Metabiota and review of the final sub-contracts package for execution.

Subject Matter Expert 3: 30 hours

Gryphon's (b)(6) conducted activities during this time period that included coordination with Metabiota personnel to support completion and review of Gryphon's proposal for this project and contracting requirements, once authorized. She also conducted initial review and development of conference materials, participating in routine communications and conference calls with Metabiota and RSS personnel, and development of the project schedule and CDRL requirements in coordination with Metabiota project personnel.

Subject Matter Expert 1: 59.5 hours

Gryphon's (b)(6) expertise in regional planning were utilized during this time period that included initiation of conference planning, design of the conference logo, project scheduling, and participation in routine communications with Metabiota personnel to initiate project activities. Additional activities included communications with vendors to provide website and graphics support for this event.

CLIN 1003 – Materials and Supplies

Materials and supplies costs were not incurred during this invoice period.

CLIN 1004 – ODCs

ODC costs were not incurred during this invoice period.

CLIN 1005 – Travel

Travel costs were not incurred during this invoice period.

Metabiota

(b)(6)

Invoice:	INV-0000000239	**Invoice End Date**	
Invoice Amount	22,610.85	**Invoice Due Date**	2015-10-08
Remit To:		**Bill To:**	
Metabiota,Inc.		Defense Threat Reduction Agency	
1 Sutter Street, Suite 600		8725 John J. Kingman Rd.	
San Francisco		Ft. Belvoir	
CA		VA	
94104		22060-6201	

(b)(4); (b)(6)

	PLC Cd
01021.01.102.CEN.02	PM1002
01021.01.102.CEN.02	RA1000
01021.01.102.CEN.02	RA1000
01021.01.102.CEN.02	RA1000
01021.01.102.CEN.02	SME101
01021.01.102.CEN.02	SME101
01021.01.102.CEN.02	SME103

(b)(6)

22,610.85

TD004 MESA Epigenetics and Genomics of Infectious Disease Workshop

Objectives

Further CBEP Cooperative Biological Research (CBR) objectives through topic focused, poster and training sessions thereby identifying potential partners for future research cooperation, increasing knowledge of specific areas of research educating on best practices in international scientific collaboration.

Period of Performance: 06/01/2015 - 05/15/2016

CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$405,225.00	$142,917.46	$262,307.54
1003	$28,708.44	$1,305.98	$27,402.46
1004	$5,342.60	$289.89	$5,052.71
1005	$48,764.00	$6,825.30	$41,938.70
TOTAL	$488,040.04	$151,338.63	$336,701.41

CLIN 1002 – Labor

Program Manager: 194 hours

(b)(6) provided oversight, administration, and coordination in direct support of project execution. She participated in the pre-coordination visit to RSS facilities in Amman, Jordan in October to work with Gryphon and RSS SME's supporting logistical requirements for the conference, finalization of the conference agenda, speakers, and coordination with US Embassy personnel to ensure they have oversight on the project. She worked with the team to implement the MESA conference meeting and outreach event on September 29, successfully communicating conference objectives and information to USG and regional embassy partners. She Prepared and submitted a revised project proposal with an extended period of performance (POP) until May 2016 and revised budget to account for the extended POP. The purpose of this extension is to guarantee a successful implementation of the project. The extended project proposal has been accepted. She facilitated and directed regular programmatic meetings to ensure deliverables were met, to include weekly calls with CBEP and CLS team members and regional leads, and bi-weekly calls with RSS and Gryphon SMEs. She continued coordination with all project partners to ensure timely submission of CDRL requirements, to include a system for submission of CLS travel forms, JKO training for USG attendees, vetting, and other requirements for smooth execution of travel needs. She worked with Gryphon and CBEP to complete and receive approval on the press release for this event, and launch of the conference website.

Research and Data Analysts: 302 hours

(b)(6) ontinued supporting the project by providing daily administration and project coordination needs keeping all team members up to date on requirements and ensuring the project timeline and deliverable submissions are met. She coordinated with Gryphon SMEs to provide travel tracking and support to invited conference speakers and confirmed participants. She coordinated routine calls with key team members, participated in advisory board calls, tracked contract requirements for

Gryphon, and assisted in development of logistical requirements for submission to CBEP and CLS. She provided assistance in finalizing all coordination needs of the MESA conference meeting and outreach event in September, and attended the event. She also assisted in preparing the revised proposal. Emily coordinated regular programmatic meetings.
Pam Murphy provided administrative support for the completion of the subcontract, and submission of Gryphon financial reporting and invoicing.
(b)(6) assisted with revisions of the conference agenda, website requirements, as well as tracking, and review of submitted abstracts. She directly supported Gryphon SME's in execution of technical requirements needed in development of materials and conference outreach.

Subject Matter Expert 3: 122.5 hours

(b)(6) provided technical expertise and project coordination as the lead for Gryphon Scientific. She facilitated the appointment of a scientific advisory board, and continues to coordinate with the board, CBEP, and Metabiota to review and finalize the conference agenda and abstracts for participant selection. She worked with her team to develop an application, review, and selection process for receipt of scientific abstracts, and continues to work with the team to implement this process and secure all participants for the event. She continued conference outreach and securing speakers to facilitate the event. She worked with the team to finalize the conference website, and press release, further supporting facilitation of the event. She assisted in facilitation of the outreach reception held in September and attended the pre-coordination visit with (b)(6). She also participated in regular project meetings to ensure ongoing coordination of the conference.

Subject Matter Expert 1: 309.5 hours

(b)(6) provided routine technical expertise in direct support of the conference. They supported (b)(6) n coordinating all aspects of the project to include development of the website, securing speakers, development of the agenda, abstract reviews, and logistical requirements. They assisted in reaching out to partners for attendance at the outreach event in September, and attended the event. They participated in routine project meetings and calls, and coordinated directly with the scientific advisory board and team members to ensure all scientific personnel were secured for the even (b)(6) attended the pre-coordination meetings in Jordan with (b)(6) and continues to support logistical needs on the project.

CLIN 1003 – Materials and Supplies

Material and supply costs were not incurred during this period.

CLIN 1004 – ODCs

DBA costs were incurred during this period in support of the pre-coordination trip to Jordan in October.

CLIN 1005 – Travel

Travel costs are inclusive of the pre-coordination trip to Jordan conducted in October.

(b)(4); (b)(6)

	TOTAL INVOICE		$	127,421.80	$ 150,032.65

Clements Worldwide
One Thomas Circle,NW 8th Floor
clements Washington, DC 20005
Phone: 202-872-0060

INVOICE NO. 282518		Page 1
ACCOUNT NO.	OP	DATE
GLOBA-6	SE	10/08/2015

Metabiota, Inc
(b)(6)
One Sutter Ste 600
San Fransico, CA 94104

Itm #	Eff Date	Trn	Type	Policy #	Description		Amount
99X58P	10/09/15	+EN	WC-F	ENID37429193	END #14 2014-2015	ACE USA	$222.00
99X58Q	10/09/15	+EN	WC-F	ENID37429193	END #15 2015-2016	ACE USA	$5,405.00
					Invoice Balance:		$5,627.00

*** PLEASE RETURN ONE COPY WITH YOUR REMITTANCE ***

TD 4 #1a ODC

ace usa

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

Named Insured			Endorsement Number
Metabiota, Inc			014
Policy Symbol	Policy Number	Policy Period	Effective Date of Endorsement
ENI	D37429193 001	December 22, 2014 to December 22, 2015	October 09, 2015
Issued By (Name of Insurance Company)			
ACE American Insurance Company			

AMENDMENT TO SCHEDULE IN DEFENSE BASE ACT CONTRACT AND/OR PROJECT ENDORSEMENT

This endorsement modifies insurance provided under the following:

DEFENSE BASE ACT WORKERS COMPENSATION AND EMPLOYERS LIABILITY INSURANCE POLICY

The Schedule of the DEFENSE BASE ACT COVERAGE ENDORSEMENT is amended to read as follows:

Schedule

Contract Name/Number/Country(s) or Project Name & Country(s)
In consideration of additional premium charge of $222, travel to Jordan from 10/09/2015 to 10/13/2015 under currently scheduled contract is afforded coverage as of the effective date of this endorsement. A rate of $3.50 applies to this travel. Payroll of $6,344 is added to this policy. It is further agreed this additional premium charge is fully earned and the minimum earned premium is amended to read $47,964. Policy payroll now totals $1,370,392.

All other terms and conditions of this policy remain unchanged

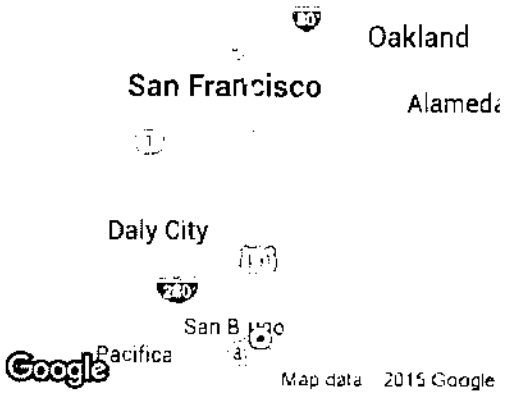
TO 4 #16

Subject: Fwd: Copy of your Oct 8 Uber receipt
Date: Tuesday, October 20, 2015 at 2:17:50 PM Pacific Daylight Time
From: (b)(6)
To:
Attachments: map_bb7d5508-eb4e-4680-9914-51bffa873bd9

---------- Forwarded message ----------
From: **Uber Receipts** <receipts.san.francisco@uber.com>
Date: Tue, Oct 20, 2015 at 2:15 PM
Subject: Copy of your Oct 8 Uber receipt
To: (b)(6)

UBER

$39.10



04:33pm

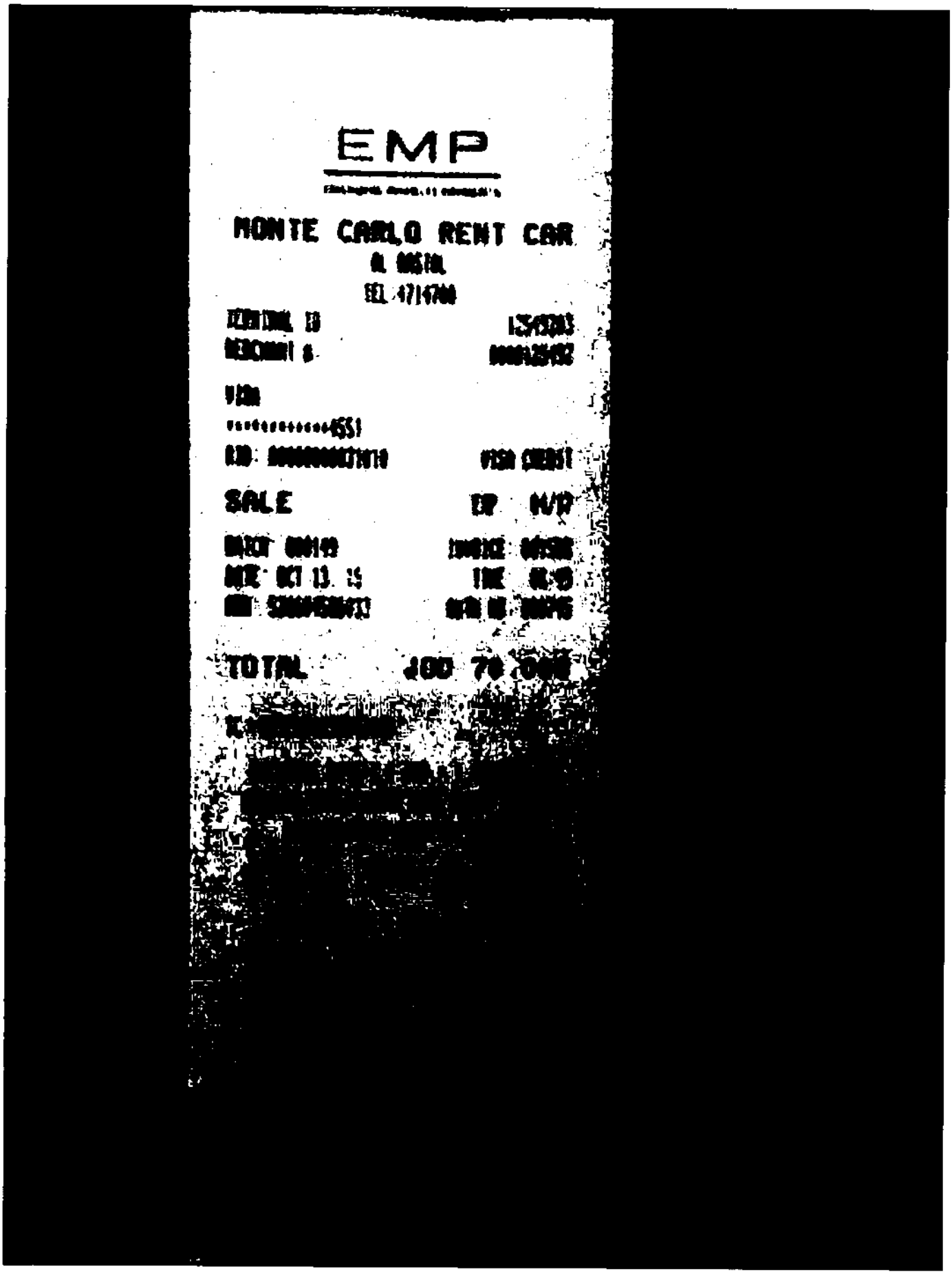
05:20pm

uberX	15.28	00:46:52

FARE BREAKDOWN

Base Fare	2.20
Distance	19.86
Time	12.19
Subtotal	**$34.25**
	3.85
	1.00
Personal ···· 1055	**$39.10**

TU 4 #1



EMP

MONTE CARLO RENT CAR

SALE

TOTAL

TD 4 #2

MONTE CARLO

P O BOX 1937, Al Jubeiha 11941, Jordan
Amman, Al Jubeiha, Ahmad Al Tarawneh
Street, Building 29
Tel: +962 (6) 53 35 135
Tel: +962 (6) 53 67 002
Fax +962 (6) 53 35 122
E-mail: contactus@montecar.com
Website: WWW.MONTECAR.ORG

No. 16615

Date : 11/10/2015

Receipt Voucher

JOD	Fils
265	---

Received from: (b)(6)

The sum of: Only two hundred sixty five JOD.

For: Car Rental with driver for 3 days.

Payment Method: Received by VISA

Prepa

Signature:

(b)(6)

PAID

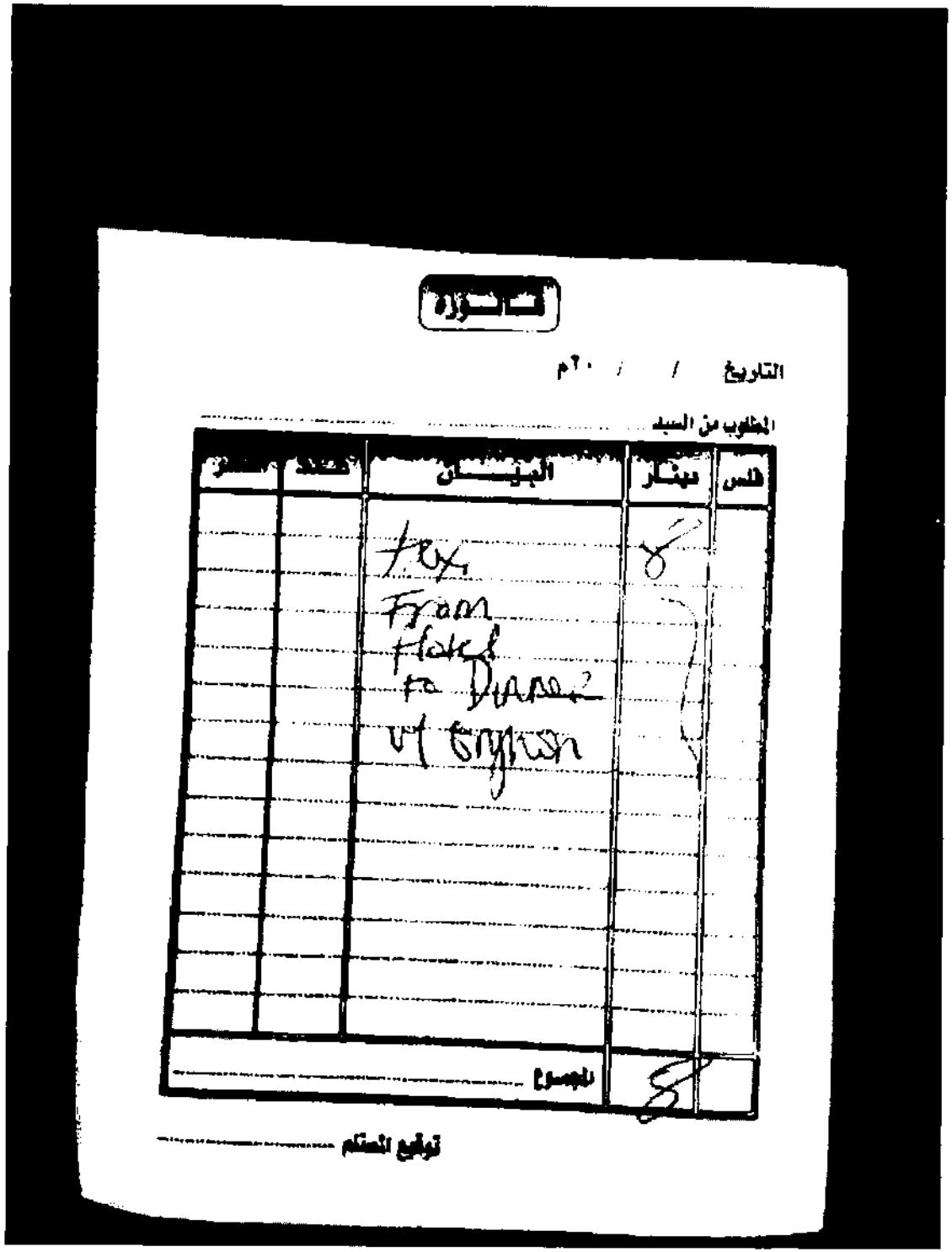
EMP

EMERGING MARKETS PAYMENTS

MONTECARLO S/C

$389.63

TD4#3



فاتورة

التاريخ / / ٢٠م

المطلوب من السيد .....

فلس	دينار	البيان	عدد	سعر
	8	tax From Hotel to Dinner w/ Gryson		
		المجموع		

توقيع المستلم .....

11.34 US

TD 4#4

CONCUR | Travel | Expense | Reporting | App Center

Administration | Help | Profile

Manage Expenses | Processor

AEP MESA Pre-Coordination Visit [Solidify Collapse]

Summary | Details | Receipts | Print / Email

Exceptions

Expense Type	Date	Amount	Exception
Foreign Travel	08/12/2015	$0.00	Code: EXPRTRAN, Level: 1 The transaction date is older than your company allows. Please provide an explanation for why you are now entering this expense.
Foreign Travel	10/13/2015	JOD 1.59	Code: SUBHASXCT, Level: 1 This itemized entry has 5 receipts with one or more exceptions.
Foreign Travel ...	10/10/2015	JOD 1.59	Code: DUPLHECK, Level: 1 This expense entry may be a duplicate of the following expense.

Expenses

View | Summary

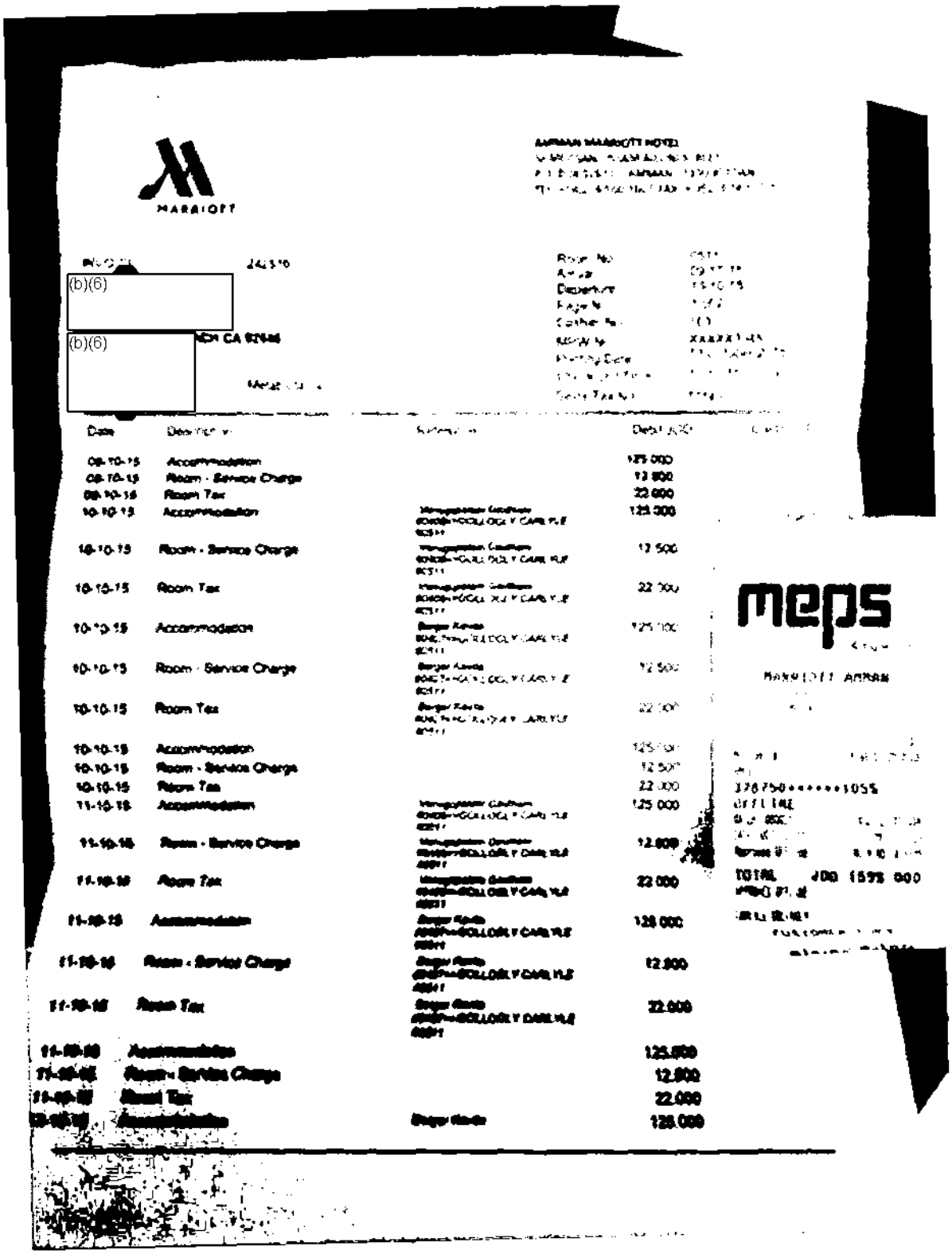
Date	Expense Type	Reviewed	Amount	Approved
10/15/2015	Foreign Travel: Per Diem	Y	$105.75	$105.75
10/14/2015	Foreign Travel: Per Diem	N	$0.00	$0.00
10/13/2015	Foreign Travel: Lodging AMMAN MARRIOTT HTL, AMMAN JORDAN, Amman JORDAN	Y	$2,309.79 JOD 1,595.00	$2,309.79
10/13/2015	Foreign Travel: Per Diem	Y	$141.00	$141.00
10/13/2015	Foreign Travel: Other Expenses Visa	Y	$3.00	$3.00
10/13/2015	Foreign Travel: Transportation Monte Carlo	Y	$102.86	$102.86
			TOTAL AMOUNT $3,244.67	TOTAL APPROVED $3,244.67

Report Summary

Report Totals

Amount Due Company	Amount Due Company C...
$0.00	$2,560.83

TD 4 #5a



MARRIOTT

AMMAN MARRIOTT HOTEL

INVOICE 242510

(b)(6)

(b)(6)

Room No.
Arrival
Departure
Page No.
Cashier No.
MPW No.
Printing Date
Sales Tax No.

Date	Description	Reference	Debit (JOD)
08-10-15	Accommodation		125.000
08-10-15	Room - Service Charge		12.500
08-10-15	Room Tax		22.000
10-10-15	Accommodation	Venugopalam Gautham [illegible]	125.000
10-10-15	Room - Service Charge	Venugopalam Gautham [illegible]	12.500
10-10-15	Room Tax	Venugopalam Gautham [illegible]	22.000
10-10-15	Accommodation	Berger Kevin [illegible]	125.000
10-10-15	Room - Service Charge	Berger Kevin [illegible]	12.500
10-10-15	Room Tax	Berger Kevin [illegible]	22.000
10-10-15	Accommodation		125.000
10-10-15	Room - Service Charge		12.500
10-10-15	Room Tax		22.000
11-10-15	Accommodation	Venugopalam Gautham [illegible]	125.000
11-10-15	Room - Service Charge	Venugopalam Gautham [illegible]	12.500
11-10-15	Room Tax	Venugopalam Gautham [illegible]	22.000
11-10-15	Accommodation	Berger Kevin [illegible]	125.000
11-10-15	Room - Service Charge	Berger Kevin [illegible]	12.500
11-10-15	Room Tax	Berger Kevin [illegible]	22.000
11-10-15	Accommodation		125.000
11-10-15	Room - Service Charge		12.500
11-10-15	Room Tax		22.000
12-10-15	Accommodation	Berger Kevin	125.000

meps

MARRIOTT AMMAN

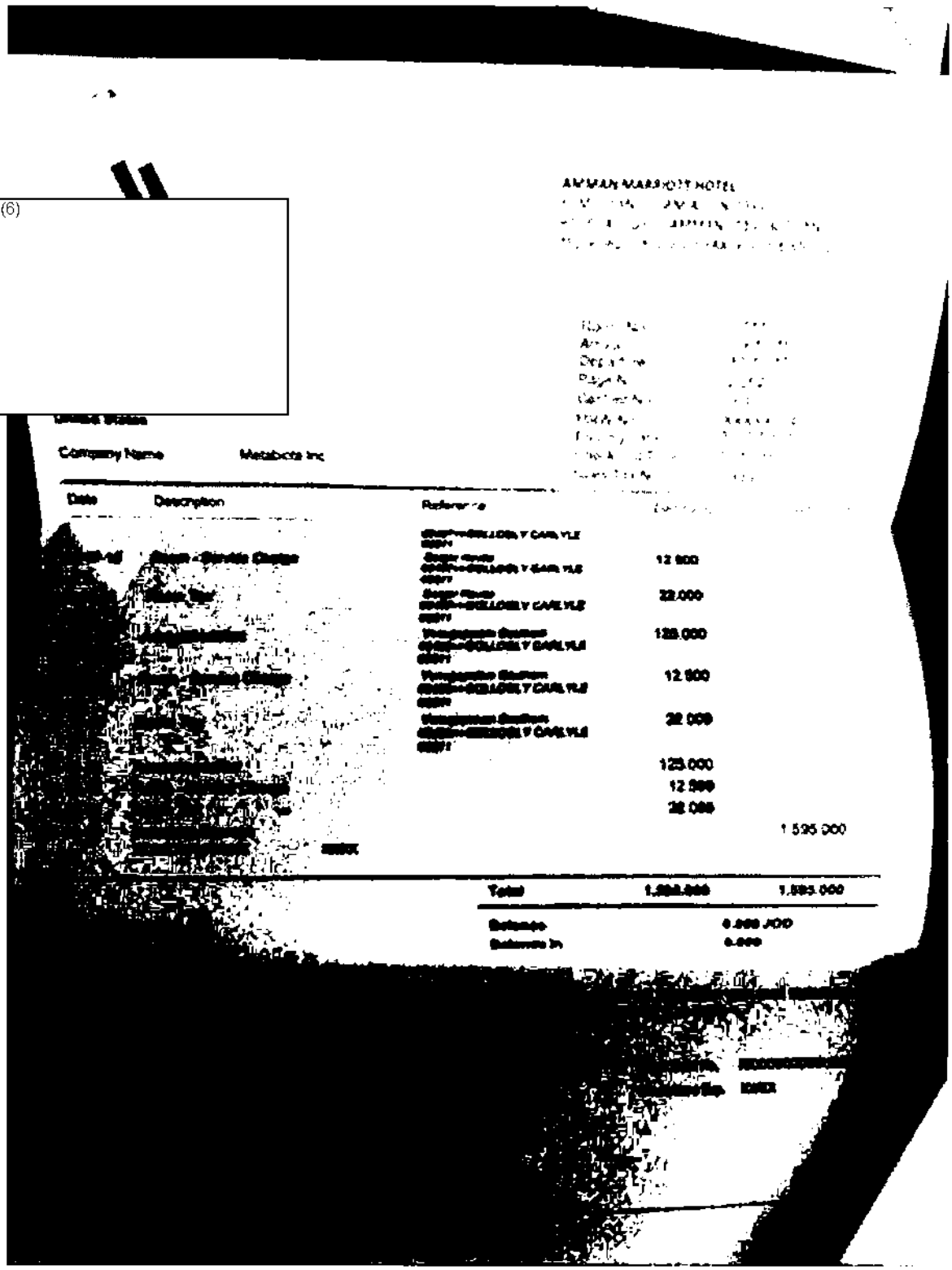
378750******1055

OFFLINE

TOTAL JOD 1595.000

TD 4 # 5b

(b)(6)


AMMAN MARRIOTT HOTEL
Company Name
Metabiota Inc
Date
Description
12 500
22.000
125.000
12.500
22 000
125.000
12 500
22 000
1 595 000
Total
1 595 000

TD 4# 5c

Subject: Re: Request for Travel Authorization (b)(6) / Amman, Jordan / TD004 / 09-13 October 2015
Date: Wednesday, August 12, 2015 at 5:17:47 AM Pacific Daylight Time
From: (b)(6)
To: (b)(6)

Approved

Cheers,
(b)(6)

Sent from my iPhone

On Aug 11, 2015, at 1:03 PM, (b)(6) wrote:

Dear (b)(6)

I hope this email finds you well.

Please find attached a travel request for (b)(6) to travel to Amman, Jordan from 09-13 October 2015 in support of the Epigenomics Workshop to be held in Jordan in March 2016 under the TD004.

This travel is being requested to support a pre-coordination meeting with RSS, the in-country partner in Jordan, to ensure the in-country logistics are moving forward and are operationally on track for the March WS.

If you have any questions, or require further information, please let me know.

Kind regards,
(b)(6)

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

<TAF_TMGGollogly+2_Jordan_09-13October2015_v2.xlsx>

TD 4#5d

[redacted]

October 08, 2015 17 47
Receipt # 0227814773
AmEx # XXXXXXXXXXX1329
2015/10/08 17 42

Page 1

Qty	Description	Amount
5	88 Fax International Send	21.95

SubTotal	21 95
Taxes	0.00
Total	21.95

The Cardholder agrees to pay the issuer of the charge card in accordance with the agreement between the Issuer and the Cardholder.

FedEx Office Print & Ship Centers

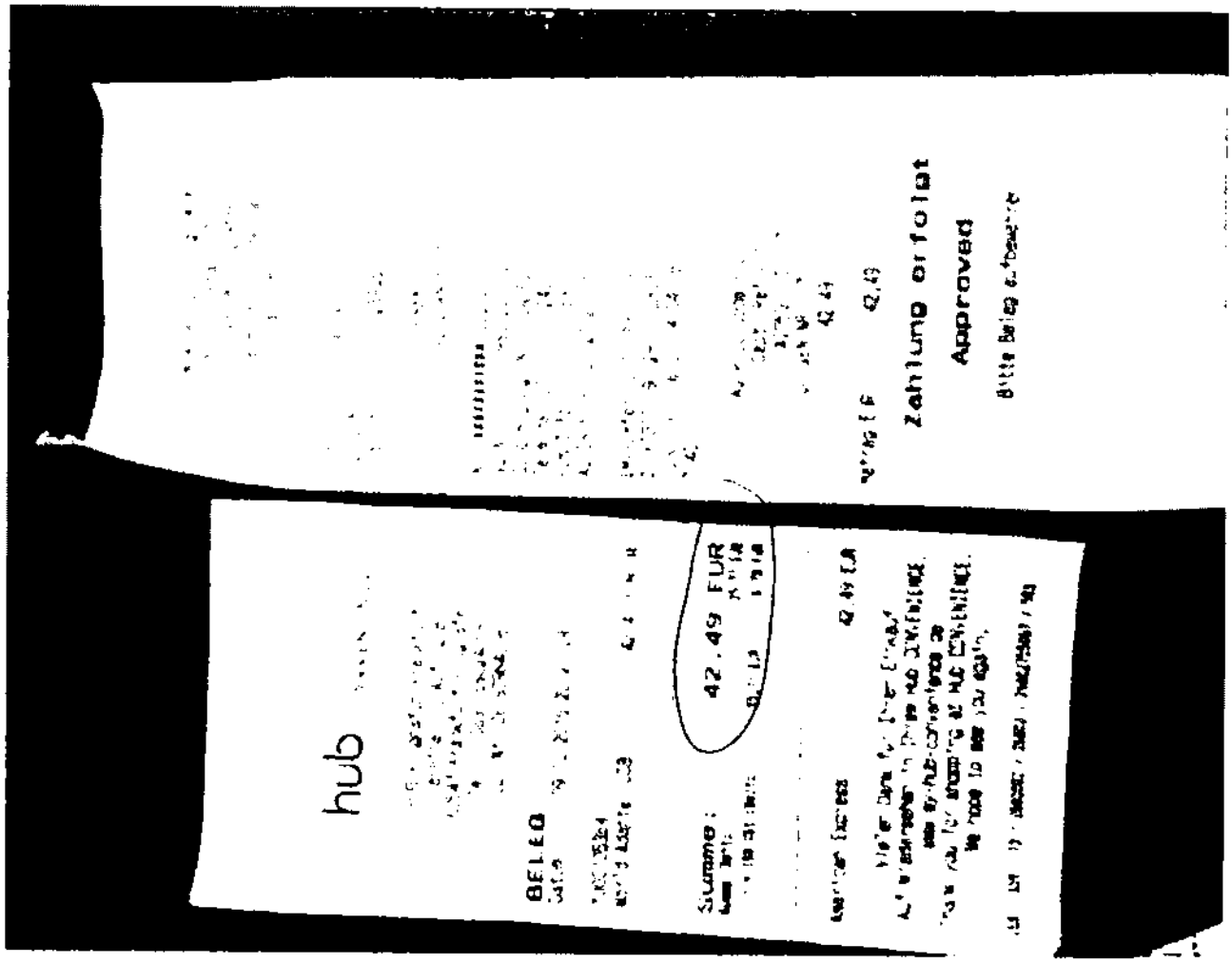
1407 East West Hwy
Silver Spring,MD 20910
301-587-6565
www.FedExOffice.com

Tell us how we're doing and receive
20% off your next $35 print order
fedex.com/welisten or 1 800 398 0242
Offer Code: Offer expires 12/31/2015

Please Recycle This Receipt

[redacted]

TD 4#6



https://www.concursolutions.com/Expense/Client/processor.asp

1.16 USD = 1 EUR

US$49.29

TD 4#7

Account Details for (b)(6) [redacted] 448486******4551)

PRINT

Statement Cycle: Current

TD 4 #9

FOREIGN TRANSACTION FEE

$11.69 −

Posted: 10-12-2015
Occurred: 10-11-2015
Location: 00000
MCC: [illegible]
MCC Description:
Memo: Y
Original Amount: 11.69
Currency Desc: US Dollar ($40)
Conversion Rate: 0.0
Billed Amount: 11.69

[illegible] Credit

MONTECARLO RENT A CAR

$389.63 +

Posted: 10-12-2015
Occurred: 10-11-2015
Location: AMMAN 00000
MCC: 7511
MCC Description: Automobile Rental Agency
Memo: Y
Original Amount: 389.63
Currency Desc: US Dollar ($40)
Conversion Rate: 0.0
Billed Amount: 389.63

TD 4 #3

FOREIGN TRANSACTION FEE

TD 4 #8 $3.09 −

Posted: 10-14-2015
Occurred: 10-13-2015
Location: 00000
MCC: 0000
MCC Description:
Memo: Y
Original Amount: 3.09
Currency Desc: US Dollar ($40)
Conversion Rate: 0.0
Billed Amount: 3.09

Credit

MONTECARLO RENT A CAR

$102.86 +

Posted: 10-14-2015
Occurred: 10-13-2015
Location: AMMAN 00000
MCC: 7511
MCC Description: Automobile Rental Agency
Memo: Y
Original Amount: 102.86
Currency Desc: US Dollar ($40)
Conversion Rate: 0.0
Billed Amount: 102.86

TD 4 #2

TD 4 #2, 3

#8, 9

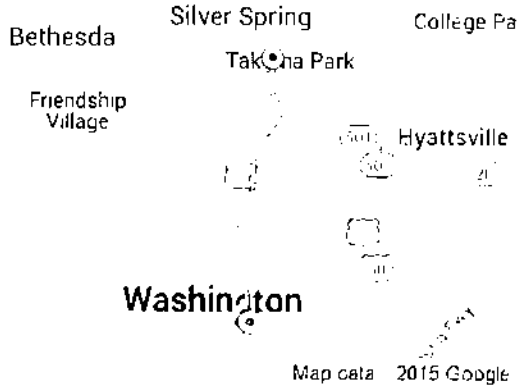
Subject: Fwd: Copy of your Jul 31 Uber receipt
Date: Monday, September 21, 2015 at 11:01:37 AM Pacific Daylight Time
From: (b)(6)
(b)(6)

Sent from my iPhone

Begin forwarded message:

Resent-From: (b)(6)
From: Uber Receipts <receipts.washington.DC@uber.com>
Date: September 21, 2015 at 10:56:28 AM PDT
(b)(6)
Subject: Copy of your Jul 31 Uber receipt

$15.53



FARE BREAKDOWN

Base Fare	2.00
Distance	6.38
Time	6.00
Subtotal	**$14.38**
	1.00
	0.15

- **08:29am**

CHARGED
Personal ···· 1055 **$15.53**

- **08:59am**

uberX	6.25	00:29:59

TD 4 # 10

Printable Version

ETICKET RECEIPT IS ATTACHED
******* PLEASE REVIEW YOUR ITINERARY CAREFULLY******
DISCREPANCIES MUST BE BROUGHT TO OUR ATTENTION WITHIN 24 HOURS.
AFTER THAT TIME, ANY PENALTIES INCURRED DUE TO CHANGES ARE THE RESPONSIBILITY OF THE TRAVELER.

Kentlands Travel

UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone: (301) 948-2448

METABIOTA@UNIGLOBEKENTLANDS.COM

Passenger(s):	(b)(6)	**Booking Ref.:**	2UEEBQ
Invoice No.:	71169	**Agent:**	(b)(6)
Issue Date:	Wednesday, September 9, 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

• If you would like to view your reservation online with Check My Trip: Click Here

• For Aircraft Disinsection Requirements: Click Here

AIR - Friday October 9 2015

United Airlines Flight UA926 Economy Class

Check In Confirmation: D9VKVM *(*24 Hours Prior)*

Depart:	7:05 PM, Friday, October 9 San Francisco Intl. Arpt. Terminal I San Francisco, California, USA	**Arrive:**	2:55 PM, Saturday, October 10 Frankfurt Intl. Airport-Terminal 1 Frankfurt, Germany
Status:	Confirmed		
Booking Code:	Q (Economy)		
Equipment:	Boeing 747-400	**Stops:**	Non-stop
Duration:	10 hours 50 minutes	**Seat:**	35G (Non smoking) Confirmed
FF Number:	UAWKW91787	**Meal:**	Dinner

Weather | Flight Status *(up to 3 days prior)* | Dining Reservations

AIR - Saturday October 10 2015

United Airlines Flight UA9150 Economy Class
Operated By Lufthansa
Check In With Lufthansa (LH692)

Check In Confirmation: D9VKVM

Depart:	8:40 PM, Saturday, October 10 Frankfurt Intl. Airport-Terminal 1 Frankfurt, Germany	**Arrive:**	1:50 AM, Sunday, October 11 Queen Alia Intl Airport Amman, Jordan
Status:	Confirmed		
Booking Code:	Q (Economy)		
Equipment:	Airbus Industrie A321	**Stops:**	Non-stop
Duration:	4 hours 10 minutes	**Seat:**	Assigned at Check In
FF Number:	UAWKW91787	**Meal:**	Cold Meal
Remarks:	Seat assigned at check-in Not eligible for web check in		

Weather | Flight Status *(up to 3 days prior)*

AIR - Sunday October 18 2015

TD 4 #11a

United Airlines Flight UA9151 Economy Class
Operated By Lufthansa
Check In With Lufthansa (LH693)

Check In Confirmation:
D9VKVM

Depart:	2:55 AM, Sunday, October 18 Queen Alia Intl Airport Amman, Jordan	**Arrive:**	6:35 AM, Sunday, October 18 Frankfurt Intl. Airport-Terminal 1 Frankfurt, Germany
Status:	Confirmed		
Booking Code:	Q (Economy)		
Equipment:	Airbus Industrie A321	**Stops:**	Non-stop
Duration:	4 hours 40 minutes	**Seat:**	Assigned at Check In
FF Number:	UAWKW91787	**Meal:**	Cold Meal
Remarks:	Seat assigned at check-in Not eligible for web check in		

Weather | Flight Status *(up to 3 days prior)* | Dining Reservations

AIR - Sunday October 18 2015

United Airlines Flight UA8845 Economy Class
Operated By Lufthansa
Check In With Lufthansa (LH456)

Check In Confirmation:
D9VKVM

Depart:	10:35 AM, Sunday, October 18 Frankfurt Intl. Airport-Terminal 1 Frankfurt, Germany	**Arrive:**	12:40 PM, Sunday, October 18 Los Angeles Intl. Airport-Terminal B Los Angeles, California, USA
Status:	Confirmed		
Booking Code:	Q (Economy)		
Equipment:	Airbus Industrie A380-800	**Stops:**	Non-stop
Duration:	11 hours 35 minutes	**Seat:**	Assigned at Check In
FF Number:	UAWKW91787	**Meal:**	Meal
Remarks:	Seat assigned at check-in Not eligible for web check in		

Weather | Flight Status *(up to 3 days prior)*

Invoice Details

Transaction / Document		Base	Tax	Total
United Airlines / 016 7711532356		962.00	604.59	1566.59
	Form of Payment: AX XXXXXXXXXXXX1055			
Processing Fee / 890 0658836892		43.00		43.00
	Form of Payment: AX XXXXXXXXXXXX1055			
	Totals:	1005.00	604.59	USD 1609.59

Total Charged to Credit Card: USD 1609.59
Balance Due: USD 0.00

Fare Rules

• Airline policy - Fare is not guaranteed until ticketed. This ticket is non refundable and non transferable. Changes are subject to fare Upgrade and change fee. Missing your flight without cancellation may result in the forfeiture of the value of your airline ticket.

Baggage Fees & Allowances

Baggage allowance, specific size and weight restrictions vary between airlines. Please visit the link below to view the allowances and possible fees for your trip.

- Baggage Fees/Allowances

Important Information

• Your reservation number with United Airlines is D9VKVM. United Airlines contact phone number is 1-800-538-2929.

TD 4#16

Printable Version

ETICKET RECEIPT IS ATTACHED
******** PLEASE REVIEW YOUR ITINERARY CAREFULLY********
DISCREPANCIES MUST BE BROUGHT TO OUR ATTENTION WITHIN 24 HOURS.
AFTER THAT TIME, ANY PENALTIES INCURRED DUE TO CHANGES ARE THE RESPONSIBILITY OF THE TRAVELER.

Kentlands Travel

UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone (301) 948-2448

METABIOTA@UNIGLOBEKENTLANDS.COM

Passenger(s):	(b)(6)	**Booking Ref.:**	Z2OWAG
Invoice No.:	70678	**Agent:**	(b)(6)
Issue Date:	Tuesday, August 25, 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

• If you would like to view your reservation online with Check My Trip Click Here

• For Aircraft Disinsection Requirements: Click Here

AIR - Friday October 9 2015

United Airlines Flight UA9822 Economy Class
Operated By Austrian Airlines
Check In With Austrian (OS94)

Check In Confirmation: EDVWVP

Depart:	5:55 PM, Friday, October 9 Dulles Intl Arpt. Washington, District of Columbia, USA	**Arrive:**	8:40 AM, Saturday, October 10 Vienna Intl. Airport Vienna, Austria
Status:	Confirmed		
Booking Code:	T (Economy)		
Equipment:	Boeing 777-200/ 200ER	**Stops:**	Non-stop
Duration:	8 hours 45 minutes	**Seat:**	Assigned at Check In
Meal:	Breakfast		
Remarks:	Seat assigned at check-in Not eligible for web check in		

Weather Flight Status *(up to 3 days prior)*

AIR - Saturday October 10 2015

United Airlines Flight UA9815 Economy Class
Operated By Austrian Airlines
Check In With Austrian (OS853)

Check In Confirmation: EDVWVP

Depart:	10:20 AM, Saturday, October 10 Vienna Intl. Airport Vienna, Austria	**Arrive:**	2:55 PM, Saturday, October 10 Queen Alia Intl Airport Amman, Jordan
Status:	Confirmed		
Booking Code:	T (Economy)		
Equipment:	Airbus Industrie A319	**Stops:**	Non-stop
Duration:	3 hours 35 minutes	**Seat:**	Assigned at Check In
Meal:	Meal		
Remarks:	Seat assigned at check-in Not eligible for web check in		

Weather Flight Status *(up to 3 days prior)*

TD 4 # 12a

AIR - Tuesday October 13 2015

United Airlines Flight UA9151 Economy Class
Operated By Lufthansa
Check In With Lufthansa (LH693)

Check In Confirmation: EDVWVP

Depart:	2:55 AM, Tuesday October 13 Queen Alia Intl Airport Amman, Jordan	**Arrive:**	6:35 AM, Tuesday, October 13 Frankfurt Intl. Airport-Terminal 1 Frankfurt, Germany
Status:	Confirmed		
Booking Code:	T (Economy		
Equipment:	Airbus Industrie A321	**Stops:**	Non-stop
Duration:	4 hours 40 minutes	**Seat:**	Assigned at Check In
Meal:	Cold Meal		
Remarks:	Seat assigned at check-in Not eligible for web check in		

Weather | Flight Status *(up to 3 days prior)* | Dining Reservations

AIR - Tuesday October 13 2015

United Airlines Flight UA988 Economy Class

Check In Confirmation: EDVWVP *(^24 Hours Prior)*

Depart:	12 20 PM, Tuesday, October 13 Frankfurt Intl. Airport-Terminal 1 Frankfurt, Germany	**Arrive:**	3 20 PM, Tuesday, October 13 Dulles Intl Arpt. Washington, District of Columbia, USA
Status:	Confirmed		
Booking Code:	T (Economy)		
Equipment:	Boeing 777	**Stops:**	Non-stop
Duration:	9 hours 0 minutes		
Seat:	40G (Non smoking) Confirmed - BERGER/KAVITA MARFATIA 37D (Non smoking) Confirmed - VENUGOPALAN/GAUTHAM		
Meal:	Lunch		

Weather | Flight Status *(up to 3 days prior)* | Dining Reservations

Invoice Details

Transaction / Document	Base	Tax	Total
United Airlines / 016 7710029139 (Berger/Kavita Marfatia)	351 00	572.78	923.78
	Form of Payment AX XXXXXXXXXXXX1055		
United Airlines / 016 7710029140 (Venugopalan/Gautham)	351 00	572.78	923.78
	Form of Payment AX XXXXXXXXXXXX1055		
Processing Fee / 890 0658735217 (Berger/Kavita Marfatia)	43.00		43.00
	Form of Payment AX XXXXXXXXXXXX1055		
Processing Fee / 890 0658735218 (Venugopalan/Gautham)	43 00		43.00
	Form of Payment AX XXXXXXXXXXXX1055		
Totals:	788.00	1145.56	USD 1933.56

Total Charged to Credit Card: USD 1933.56
Balance Due: USD 0.00

Fare Rules

• Airline policy - Fare is not guaranteed until ticketed. This ticket is non refundable and non transferable. Changes are subject to fare Upgrade and change fee. Missing your flight without cancellation may result in the forfeiture of the value of your airline ticket.

TD 4 #12b

Subject: (b)(6) Ticket/Invoice #71942, Agency File No.: 2UEEBQ Departs 08OCT15 To: Amman, Tkt: 016-7713233449

Date: Tuesday, October 20, 2015 at 1:42:12 PM Pacific Daylight Time

From: Metabiota

To: (b)(6)

(b)(6)

An updated eticket receipt is below. Since a refund of $314.62 was processed, there is not a credit available for a future flight.

Please let me know if you need additional details.

Thank you!

(b)(6)

ETICKET RECEIPT IS ATTACHED
******** PLEASE REVIEW YOUR ITINERARY CAREFULLY********
DISCREPANCIES MUST BE BROUGHT TO OUR ATTENTION WITHIN 24 HOURS.
AFTER THAT TIME, ANY PENALTIES INCURRED DUE TO CHANGES ARE THE RESPONSIBILITY OF THE TRAVELER.

Kentlands Travel

UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone: (301) 948-2448

METABIOTA@UNIGLOBEKENTLANDS.COM

Passenger(s): (b)(6)
Invoice No.: 71942
Issue Date: Friday, October 2, 2015
Billing: METABIOTA INC
ONE SUTTER
SUITE 600
SAN FRANCISCO CA 94104

Booking Ref.: 2UEEBQ
Agent: (b)(6)
Customer: MBA

AIR - Thursday October 8 2015

United Airlines Flight UA926 Economy Class

Check In Confirmation: D9VKVM *(*24 Hours Prior)*

Depart:	7:05 PM, Thursday, October 8 San Francisco Intl. Arpt. Terminal I San Francisco, California, USA	**Arrive:**	2:55 PM, Friday, October 9 Frankfurt Intl. Airport-Terminal 1 Frankfurt, Germany

TD 4 # 13a

Status:	Confirmed		
Booking Code:	K (Economy		
Equipment:	Boeing 747-400	**Stops:**	Non-stop
Duration:	10 hours 50 minutes	**Seat:**	54H (Non smoking) Confirmed
Phone:	1-800-538-2929	**FF Number:**	UAWKW91787
Meal:	Dinner		

Weather **Flight Status** *(*up to 3 days prior)* **Dining Reservations**

AIR - Friday October 9 2015

United Airlines Flight UA9150 Economy Class
Operated By Lufthansa
Check In With Lufthansa (LH692)

Check In Confirmation:
D9VKVM

Depart:	8:45 PM, Friday, October 9 Frankfurt Intl. Airport-Terminal 1 Frankfurt, Germany	**Arrive:**	1:55 AM, Saturday, October 10 Queen Alia Intl Airport Amman, Jordan
Status:	Confirmed		
Booking Code:	K (Economy)		
Equipment:	Airbus Industrie A321	**Stops:**	Non-stop
Duration:	4 hours 10 minutes	**Seat:**	Assigned at Check In
FF Number:	UAWKW91787	**Meal:**	Cold Meal
Remarks:	Not eligible for web check in		

Weather **Flight Status** *(*up to 3 days prior)*

AIR - Thursday October 15 2015

United Airlines Flight UA9151 Economy Class
Operated By Lufthansa
Check In With Lufthansa (LH693)

Check In Confirmation:
D9VKVM

Depart:	2:55 AM, Thursday, October 15 Queen Alia Intl Airport Amman, Jordan	**Arrive:**	6:35 AM, Thursday, October 15 Frankfurt Intl. Airport-Terminal 1 Frankfurt, Germany
Status:	Confirmed		
Booking Code:	S (Economy		
Equipment:	Airbus Industrie A321	**Stops:**	Non-stop
Duration:	4 hours 40 minutes	**Seat:**	Assigned at Check In
FF Number:	UAWKW91787	**Meal:**	Cold Meal
Remarks:	Not eligible for web check in		

Weather **Flight Status** *(*up to 3 days prior)* **Dining Reservations**

AIR - Thursday October 15 2015

United Airlines Flight UA8845 Economy Class
Operated By Lufthansa
Check In With Lufthansa (LH456)

Check In Confirmation:
D9VKVM

Depart:	10:05 AM, Thursday, October 15 Frankfurt Intl. Airport-Terminal 1 Frankfurt, Germany	**Arrive:**	12:40 PM, Thursday, October 15 Los Angeles Intl. Airport-Terminal B Los Angeles, California, USA
Status:	Confirmed		
Booking Code:	S (Economy)		
Equipment:	Airbus Industrie A380-800	**Stops:**	Non-stop
Duration:	11 hours 35 minutes	**Seat:**	Assigned at Check In
FF Number:	UAWKW91787	**Meal:**	Meal
Remarks:	Not eligible for web check in		

TD4#136

Weather **Flight Status** *(*up to 3 days prior)*

Invoice Details

Transaction / Document	Base	Tax	Total
New E-Ticket / 016 7713233449 Exchanged Ticket / 016 7711532356	329.00	622.97	951.97
	Form of Payment: AX XXXXXXXXXXXXX1055		
Processing Fee / 890 0659001418	43.00		43.00
	Form of Payment AX XXXXXXXXXXXXX1055		
Exchange Ticket Number, Document Number / 016-7711532356 (Gollogly/Carlyle)	-1566.59		-1566.59
	Form of Payment: Billed To Credit Card		
Airline Change Fee (Gollogly/Carlyle)	300.00		300.00
	Form of Payment: Billed To AX XXXXXXXXXXXX1055		

Total Refunded to Credit Card: USD 314.62
Total Charged to Credit Card: USD 43.00

Fare Rules

• Airline policy - Fare is not guaranteed until ticketed. This t cket is non refundable and non transferable. Changes are subject to fare Upgrade and change fee. Missing your flight without cancellation may result in the forfeiture of the value of your airline ticket.

Baggage Fees & Allowances

Baggage allowance, specific size and weight restrictions vary between airlines. Please visit the link below to view the allowances and possible fees for your trip.

- Baggage Fees/Allowances

Important Information

• Your reservation number with United Airlines is D9VKVM. United Airlines contact phone number is 1-800-538-2929.

• Please check in at least 3 hours prior to departure. Late checkin may result in the loss of seat/reservation check in cut off time varies per carrier. Confirm with your carrier to avoid denied boarding.

• A valid passport is required for your journey. Passport must be valid at least 6 months beyond intended stay

• Passengers may carry travel sized toiletries or liquids 3 oz or less through security check points. They must fit in one quart sized, clear plastic zip-top bag. Visit www.tsa.gov.

• United Airlines freq. flyer nbr wkw91787 appended

• This is an electronic ticket valid only on issuing airline.

• Passport and Etkt itinerary required for check in. Boarding passes required prior to entering security.

• -Monday-Friday 9am-6pm eastern time call 1-800-552-6425. -For emergency service after hours call 1-888-565-9174 and give -Access code DCA352100. Note: it is not possible to make new -Reservations with the after hours service. Emergency travel assist collect in Germany/Jordan 416 928-5404. -Emergency travel assist in Jordan call collect 416 928-5404

TD 4.4 13C

From: (b)(6)
To:
Cc:
Subject: TD-005 Cancellation
Date: Tuesday, July 21, 2015 4:20:18 PM

H(b)(6)

This email serves to officially notify you that DTRA has decided to cancel the currently unapproved TD-005.

Regards,

(b)(6)
Team Lead, Contracting Officer (J4COC)
Defense Threat Reduction Agency
8725 John J Kingman Road, MSC 6201
Fort Belvoir, VA 22060
(703) 767-3503

From: (b)(6)
To:
Cc:

Subject: TD-006 Cancellation
Date: Tuesday, August 18, 2015 1:53:45 PM

Hi (b)(6)

This email serves to officially notify you that DTRA has decided to cancel the currently unapproved TD-006.

(b)(6)
Deputy Chief Scientist
Cooperative Biological Engagement Program
Cooperative Threat Reduction
Defense Threat Reduction Agency
(b)(6)

TD 006 Nipah Research Activity Project-Canceled

Objectives

Further CBEP Cooperative Biological Research (CBR) objectives through; identification of reservoir and host range for Nipah or related viruses; examination of the seroprevalance of Nipah in bats, peridomestic animals and humans, and understanding the risk factors for cross species transmission in the Philippines.

Period of Performance: 06/01/2015 – 09/30/2015

CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$11,985.82	$6,913.29	$5,072.53
1003			$0.00
1004			$0.00
1005			$0.00
TOTAL	$11,985.82	$6,913.29	$5,072.53

This technical directive was canceled on 18 August 2015. Following conversations with DTRA CBEP programmatic and contract personnel, it was determined that only labor costs associated with developing the proposal in response to the technical directive(s) would be billed to the Government. No other costs were incurred.

CLIN 1002 – Labor

Costs for direct labor to support this activity were incurred for the following personnel:

Program Manager: 24 hours

Metabiota Program Manager, (b)(6) worked with the Research Institute of Tropical Medicine (RITM) and Duke-NUS to request and prepare requirements necessary for proposal development and submission in response to the Technical Directive and Revised Technical Directive received for this activity. In support of this effort, (b)(6) participated in routine conference calls with SMEs and RCs from each institute to garner the necessary information required for the submission. In addition, she coordinated with CBEP regional personnel to ascertain project requirements, to include revised directives, and understanding of project objectives and end-states to accurately respond to the directive. In addition, (b)(6) developed the technical and cost proposal submitted to CBEP in support of this activity.

Research and Data Analysts: 46.50 hours

To complete these efforts, (b)(6) was supported by Metabiota Research and Data Analysts (b)(6) (b)(6) coordinated directly with identified SMEs and RCs from RITM and Duke-NUS to develop subcontract requests and packages in support of technical proposal development. They scheduled and participated in routine conference calls and communication with the collaborators to support development of the technical and cost proposal. In addition, they assisted in proposal development.

CLIN 1003 – Materials and Supplies
Costs were not incurred under CLIN 1003, as this technical directive was canceled.

CLIN 1004 – ODCs
Costs were not incurred under CLIN 1004, as this technical directive was canceled.

CLIN 1005 – Travel
Costs were not incurred under CLIN 1005, as this technical directive was canceled.

Oct 8, 2015

Metabiota

Invoice:	INV-0000000239	**Invoice End Date**	7/31/15
Invoice Amount	6,913.20	**Invoice Due Date**	2015-10-08

Remit To:
Metabiota,Inc.
1 Sutter Street, Suite 600
San Francisco
CA
94104

Bill To:
Defense Threat Reduction Agency
8725 John J. Kingman Rd.
Ft. Belvoir
VA
22060-6201

TD-006 Philippines PDG

Transaction Project ID	PLC Cd	PLC Desc	Name	Bill Hours	Billing Rate	Amount To Bill	Cumulative Hours	Cumulative Amount

(b)(4); (b)(6)

TD 006 Nipah Research Activity Project-Canceled

Objectives

Further CBEP Cooperative Biological Research (CBR) objectives through; identification of reservoir and host range for Nipah or related viruses; examination of the seroprevalance of Nipah in bats, peridomestic animals and humans, and understanding the risk factors for cross species transmission in the Philippines.

Period of Performance: 06/01/2015 09/30/2015

CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$11,985.82	$11,985.82	$0.00
1003			$0.00
1004			$0.00
1005			$0.00
TOTAL	$11,985.82	$11,985.82	$0.00

This technical directive was canceled on 18 August 2015. Following conversations with DTRA CBEP programmatic and contract personnel, it was determined that only labor costs associated with developing the proposal in response to the technical directive(s) would be billed to the Government. No other costs were incurred.

CLIN 1002 – Labor

Program Manager: 21 hours

(b)(6) provided oversight, management, and directly responded to the revised technical direction. She coordinated with in country partners to ensure cost savings to the government and coordinated with the CBEP Regional and program leadership to discuss the plan for this TD prior to its cancellation. Upon Cancellation she informed the partners and finalized close out activities.

Research and Data Analysts: 28 hours

(b)(6) provided administrative review and coordination of the proposal efforts in response to the revised technical direction. They assisted with close out coordination.

CLIN 1003 – Materials and Supplies

Costs were not incurred under CLIN 1003, as this technical directive was canceled.

CLIN 1004 – ODCs

Costs were not incurred under CLIN 1004, as this technical directive was canceled.

CLIN 1005 – Travel

Costs were not incurred under CLIN 1005, as this technical directive was canceled.

Metabiota

TD-006 Philippines PDG

CLIN 1002 LABOR

NAME	LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED
[redacted]						
			49.00	$ 5,072.62	119.50	$ 11,985.82

(b)(4); (b)(6)

TD 007 Regional Baseline Assessment

Objectives

Characterize the region based on the disease landscape, organic regional capabilities, and external factors that impact CBEP objectives, identify needs and areas of overlap with other stakeholders, and provide overarching strategic guidance & goals to CBEP PACOM Country Managers in the development of country engagement strategies.

Period of Performance: 05/16/2015 – 10/3/2015

TD 007 Regional Baseline Assessment			
CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$802,669.00	$450,951.99	$351,717.01
1003	$27,211.00	$4,440.29	$22,770.71
1004	$8,452.33	$160.61	$8,291.72
1005	$11,656.82	$4,697.88	$6,958.94
TOTAL	$849,989.15	$460,250.77	$389,738.38

CLIN 1002 – Labor

Metabiota's support of this effort is based on the solid expertise and cadre of exceptional researchers and SMEs the organization has on hand, and has engaged to support this project. Critical to developing an informed, targeted, and useable analysis is the reliance on field-specific expertise to inform and drive the regional assessment using risk analytics, scientific rigor and in-depth research analysis coupled with QA/QC measures to provide an informative, pointed landscape of the PACOM region that will support CBEP's 5+ year strategic plan and programmatic metrics. SMEs from a variety of disciplines have been and will be engaged to support this project to ensure all aspects of the analysis are captured to include the disease landscape, political and economic environment, legislation and governmental requirements, cultural, religious and behavioral practices, geographical and environmental issues, security concerns, and the interstices and overlapping confluence of aspects that make this a multi-faceted assessment recognizing and addressing a dynamic and changing landscape. Key to the development of this framework is driving it to an end state that will support CBEP's long-term mission in this area of operation. Metabiota's diverse team is dedicated to supporting this endeavor and bringing this project to completion. The experience of Metabiota's project management team, lead by (b)(6) is focused on achieving the desired end state and has built out the required labor to support this endeavor through rigorous recruiting and recognition of qualified experts. Team members supporting this effort are providing various levels of effort depending on their expertise and the required support needed to address specific components of the analysis. Utilizing a flexible schedule, and a cadre of team members, Metabiota can ramp up or down activity levels to address, build and support the needs required to complete this effort.

Costs for direct labor to support this activity were incurred for the following personnel:

Program Manager: 238 Hours

Metabiota SEA Program Manager, Carlyle Gollogly oversaw and executed the project to include management of the cost, schedule and performance. In addition, she provided direct management and oversight of all project personnel to include labor and reporting, driving the project to completion.

Subject Matter Experts 1: 1078.5 Hours

Metabiota Subject Matter Expert 1, Alex Vann oversaw the day-to-day activities of the project, as the key POC in Washington DC, supporting (b)(6) in the overall execution of this work. She coordinated daily with project staff, CBEP regional and country leadership to ensure they were provided routine visibility on the project to include coordination of in-person meetings, weekly reports, and analysis updates. (b)(6) provided experience and development, review, and adaptation of research documents and deliverables, as well as general research activities and facilitation of scientific collaboration.

Subject Matter Experts 2: 486 Hours

(b)(6)

(b)(6) provided experience and development, review, and adaptation of research documents and deliverables, as well as general research activities and facilitation of scientific collaboration. This team utilized experience in risk management, environmental studies, GIS, cultural anthropology, veterinary sciences and other related disciplines to conduct open source research, validating collected data, develop pathogen profiles, socio-economic, behavioral, and cultural components of the landscape, and provide critical scientific writing and editing skills to ensure document flow and mapping of information. The originally proposed TBD Soft Sciences labor hours were divided between (b)(6)

Subject Matter Experts 3: 508.50 Hours

(b)(6)

(b)(6) provided extensive experience and development, review, adaptation of research documents and deliverables, data and mapping visualization support, as well as general research activities and facilitation of scientific collaboration. Experts at this level bring a breadth of regional and international experience to the project specifically focused in their areas of expertise to include microbiology, virology, health informatics, medical anthropology, and data analytics. This team provides QA/QC measures to validate the data, as well as being a critical part of the team in collecting and driving the strict research aspects of this assessment.

Research and Data Analysts: 911 Hours

Research and Data Analysts, (b)(6)

(b)(6) conducted general research activities and assist in document review and editing. This team made up the general open research group of the project and provided research to support the analysis support SMEs in developing and building out the assessment. They also edited and referenced citations, ensuring that the document flow and citations were correct.

CLIN 1003 – Materials and Supplies

Materials and supplies costs incurred during this period include graphic services provided by Spot On Marketing. Services provided during this period included, maps, stylization, and development of the document framework for the regional landscape analysis to provide CBEP with a highly professional finished product.

Skype communication costs were incurred during this period to support communications with the project team and SMEs working on PACOM both CONUS and OCONUS.

In addition, template vector maps were procured to support graphic design and regionally specific maps required for the final deliverable of the regional baseline analysis, supporting the narrative framework and qualitative research.

CLIN 1004 – ODCs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project traveling or working overseas. DBA insurance was purchased for (b)(6) during his travel to Manila, Philippines in support of attendance at the APSED meeting.

CLIN 1005 – Travel

At the request of DTRA (b)(6) Southeast Asia Program Manager traveled to New Orleans to attend PACOM meetings, as well as the American Society for Microbiology (ASM) General Meeting and to conduct working groups with DTRA CBEP Regional Leadership.

Travel was authorized for (b)(6) Southeast Asia Program Manager, and Alex Vann, SME I, to travel to Cebu, Philippines to attend the Asia-Pacific Biosafety Association (A-PBA) 10th Anniversary Conference and meetings with CBEP Regional Leads and other stakeholders in support of completing the PACOM baseline analysis. After booking the trip and registering for the conference, the trip was canceled due to the CCR not being approved. Costs are billed for bookings and reservations that were partially refunded upon cancellation. These include conference and airline processing fees for cancelation– no costs are billed for fully refunded bookings or expenses.

(b)(6) Deputy Director of the AEP Program traveled to Manila, Philippines to attend the World Health Organization Western Pacific Regional Office (WHO/WPRO) Technical Assistance Group (TAG) meeting on the Asia Pacific Strategy for Emerging Diseases (APSED).

Metabiota

Invoice:	INV-0000000239	**Invoice End Date**	
Invoice Amount		460,250.83 **Invoice Due Date**	
Remit To:		**Bill To:**	
Metabiota,Inc.		Defense Threat Reduction Agency	
1 Sutter Street, Suite 600		8725 John J Kingman Rd.	
San Francisco		Ft Belvoir	
CA		VA	
94104		22060-6201	

(b)(4); (b)(6)

TO-007 Regional Baseline Assesment

(b)(4); (b)(6)

(b)(4); (b)(6)

01021.01.103.SEA.01	Varanay, Emily	Skype credit for calls		25.00	5.00	25.00
	Subtotal CLIN 1003			4,218.10		4,218.10
	SMH Rate		5.27%	222.29		222.29
	TOTAL CLIN 1003			**4,440.39**		**4,440.39**

Transaction Project ID	Name	Transaction Desc		Amount To Bill		Cumulative Amount
01021.01.104.SEA.01	Clements Worldwide	ODC: Other		123.00	1.00	123.00
	G&A RATE		30.58%	37.61		37.61
	TOTAL CLIN 1004			**160.61**		**160.61**

(b)(4); (b)(6)

VISA

CITY NATIONAL BANK
The way up

MEMO STATEMENT

PO BOX 54830
LOS ANGELES CA 90054

ACCOUNT NUMBER	XXXX XXXX XXXX 4551
CLOSING DATE	05-28-15
TOTAL ACTIVITY	$3,666.44

** MEMO STATEMENT ONLY **
DO NOT REMIT PAYMENT

(b)(6)
METABIOTA INC
TAKIA SMITH
1 SUTTER ST STE 600
SAN FRANCISCO CA 94104-4923

**N00C00?

IMPORTANT INFORMATION

Please see reverse side for important information, including additional disclosures regarding the annual fee.

CARDHOLDER SUMMARY

(b)(6) XXXX XXXX XXXX 4551	Purchases And Other Debits	+	Cash Advances	-	Credits	=	Total Activity
Cardholder Total	$3,666.44		$0.00		$0.00		$3,666.44

FOR CUSTOMER SERVICE CALL	ACCOUNT NUMBER	
1-800-998-6206	XXXX-XXXX-XXXX-4551	
INTERNATIONAL	CLOSING DATE	TOTAL CREDIT LINE
800-773-71000	05/28/15	$8,000.00
SEND INQUIRIES TO:	DISPUTED AMOUNT	CASH LIMIT*
CREDIT CARD PROCESSING CENTER DISPUTE RESOLUTION PO BOX 84021 COLUMBUS GA 31908-4021	$0.00	$1,600.00
	*This represents a portion of your Total Credit Line.	

ACCOUNT SUMMARY

PURCHASES & OTHER CHARGES	$3,666.44
CASH ADVANCES	.00
CASH ADVANCE FEES	.00
CREDITS	.00
TOTAL ACTIVITY	$3,666.44

CARDHOLDER ACTIVITY

Post Date	Tran Date	Reference Number	Transaction Description	Amount
			********** NOTICE MEMO ITEMS LISTED BELOW **********	
04-30	04-30		ANNUAL FEE	M50.00
04-30	04-29	24692165119000534491032	PAY*PROPDAMAGEPROTECT 888-501-3025 CA	M59.00
04-30	04-29	24692165119000475356467	PAY*HOMEAWAY HA-8SSQPZ 877-228-3145 CA	M724.50
04-30	04-29	24692165119000475356483	PAY*HOMEAWAY HA-8SSQPZ 877-228-3145 CA	M724.50
05-20	05-19	74284475140080195120067	FOREIGN TRANSACTION FEE	M30.53
05-20	05-19	74284475140080195120075	FOREIGN TRANSACTION FEE	M30.53
05-20	05-19	74284475140080195120067	ASIA-PACIFIC BIOSA - (FOREIGN CURRENCY) $1,350.00 SGD 05/20 (RATE) 1.3265	M1,017.69
05-20	05-19	74284475140080195120075	ASIA-PACIFIC BIOSA - (FOREIGN CURRENCY) $1,350.00 SGD 05/20 (RATE) 1.3265	M1,017.69
05-25	05-19	74547065143020292638107	FOREIGN TRANSACTION FEE	M2.00
05-25	05-19	74547065143020292638107	SKYPE SUBSCRIPTION LUXEMBOURG	M10.00
			********** TOTAL AMOUNT OF MEMO ITEM(S):	$3,666.44

12

TD-007 materials 1a

VISA

CITY NATIONAL BANK
The way up.

PO BOX 54830
LOS ANGELES CA 90054

MEMO STATEMENT

ACCOUNT NUMBER	XXXX XXXX XXXX 4551
CLOSING DATE	05-28-15
TOTAL ACTIVITY	$3,666.44

** MEMO STATEMENT ONLY **
DO NOT REMIT PAYMENT

(b)(6)
METABIOTA INC
TAKIA SMITH
1 SUTTER ST STE 600
SAN FRANCISCO CA 94104-4923

**N0000097

IMPORTANT INFORMATION

Please see reverse side for important information, including additional disclosures regarding the annual fee.

CARDHOLDER SUMMARY

(b)(6) XXXX XXXX XXXX 4551	Purchases And Other Debits	+	Cash Advances	-	Credits	=	Total Activity
Cardholder Total	$3,666.44		$0.00		$0.00		$3,666.44

FOR CUSTOMER SERVICE CALL
1-800-998-6206
INTERNATIONAL
800-773-71000

SEND INQUIRIES TO:
CREDIT CARD PROCESSING CENTER
DISPUTE RESOLUTION
PO BOX 84021
COLUMBUS GA 31908-4021

ACCOUNT NUMBER
XXXX-XXXX-XXXX-4551

CLOSING DATE	TOTAL CREDIT LINE
05/28/15	$8,000.00
DISPUTED AMOUNT	**CASH LIMIT***
$0.00	$1,800.00

*This represents a portion of your Total Credit Line.

ACCOUNT SUMMARY

PURCHASES & OTHER CHARGES	$3,666.44
CASH ADVANCES	.00
CASH ADVANCE FEES	.00
CREDITS	.00
TOTAL ACTIVITY	$3,666.44

CARDHOLDER ACTIVITY

Post Date	Tran Date	Reference Number	Transaction Description	Amount
		**********	NOTICE MEMO ITEMS LISTED BELOW **********	
04-30	04-30		ANNUAL FEE	M50.00
04-30	04-29	24692165119000534491032	PAY*PROPDAMAGEPROTECT 888-501-3025 CA	M59.00
04-30	04-29	24692165119000475356467	PAY*HOMEAWAY HA-8SSQPZ 877-228-3145 CA	M724.50
04-30	04-29	24692165119000475356483	PAY*HOMEAWAY HA-8SSQPZ 877-228-3145 CA	M724.50
05-20	05-19	74284475140080195120067	FOREIGN TRANSACTION FEE	M30.53
05-20	05-19	74284475140080195120075	FOREIGN TRANSACTION FEE	M30.53
05-20	05-19	74284475140080195120067	ASIA-PACIFIC BIOSA - (FOREIGN CURRENCY) $1,350.00 SGD 05/20 (RATE) 1.3265	M1,017.69
05-20	05-19	74284475140080195120075	ASIA-PACIFIC BIOSA - (FOREIGN CURRENCY) $1,350.00 SGD 05/20 (RATE) 1.3265	M1,017.69
05-25	05-19	74547065143020292638107	FOREIGN TRANSACTION FEE	M2.00
05-25	05-19	74547065143020292638107	SKYPE SUBSCRIPTION LUXEMBOURG	M10.00
		**********	TOTAL AMOUNT OF MEMO ITEM(S):	$3,666.44

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TD-007 materials

Your Order #100013823 **(placed on July 2, 2015 11:33:46 AM EDT)**

Billing Information:

(b)(6)
Metabiota
8757 Georgia Ave
Suite 800
Silver Spring, Maryland, 20910
United States
T: 301-503-8785

Payment Method:

Debit or Credit Card

Credit Card Type: American Express
Credit Card Number: xxxx-1436

Item	Sku	Qty	Subtotal
Countries: Afghanistan to Zimbabwe - $299 ***License Options*** Standard License - One User ***Option:*** Digital Download (download)	MRCOAZ-170010	1	$299.00

Subtotal	$299.00
Discount (HG634)	-$29.90
Grand Total	**$269.10**

Gift Message for this Order

TD-007 materials 2

carlyle

SpotOn Marketing Communications

SpotOn Marketing Communications
355 Ambassador Drive
Rochester, NY 14610

(760)846-0599
(b)(6)
http://spotonmarcom.com

Invoice

Date	Invoice #
07/09/2015	1163
Terms	**Due Date**
Due on receipt	07/09/2015

Bill To

Metabiota

Amount Due	Enclosed
$1,500.00	

	Activity	Quantity	Rate	Amount
• Contact: (b)(6)		10	150.00	1,500.00

Project: Pac Report
Description: June Design Charges pertaining to graphs, tables and charts.
Total: 10 hours @ 150 hour - $1,500

Total $1,500.00

TD-007 materials 3

6

Carlyle

SpotOn Marketing Communications

SpotOn Marketing Communications
355 Ambassador Drive
Rochester, NY 14610

(760)846-0599
(b)(6)
http://spotonmarcom.com

Invoice

Date	Invoice #
07/13/2015	1167
Terms	**Due Date**
Due on receipt	07/13/2015

Bill To
Metabiota

✓ @ 7/13/15
Voucher #921

Amount Due	Enclosed
$2,400.00	

Activity	Quantity	Rate	Amount
Contact (b)(6)	1	2,400.00	2,400.00

Project: Client Proposal - S.E.Asia Avian Graphics
Description: Create 8 Custom Maps depicting S.E. Asia Avian Birdflow Zones.
Provide Raw Assets to allow client to use in PowerPoint. Rush Order.
Cost: 8 x $300 each = $2,400

TD-007 materials 4

Order No. 6811000003162048744

Purchase information

Purchased by	(b)(6)
Transaction date	July 17, 2015 (GMT/UTC)
Payment method	Visa ****9191
Status	Delivered

Download this order's Terms of Use.

Items in this order	Amount
Skype Credit	$25.00
Grand total	$25.00

TD-007 Materials 5

ace usa

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

Named Insured			Endorsement Number
Metabiota, Inc			011
Policy Symbol: ENI	Policy Number: D37429193 001	Policy Period: December 22, 2014 to December 22, 2015	Effective Date of Endorsement: July 19, 2015
Issued By (Name of Insurance Company): ACE American Insurance Company			

AMENDMENT TO SCHEDULE IN DEFENSE BASE ACT CONTRACT AND/OR PROJECT ENDORSEMENT

This endorsement modifies insurance provided under the following:

DEFENSE BASE ACT WORKERS COMPENSATION AND EMPLOYERS LIABILITY INSURANCE POLICY

The Schedule of the DEFENSE BASE ACT COVERAGE ENDORSEMENT is amended to read as follows:

Schedule

Contract Name/Number/Country(s) or Project Name & Country(s)
In consideration of additional premium charge of $123 travel to the Philippines from 07/19/2015 to 07/25/2015 under currently scheduled contract is afforded coverage as of the effective date of this endorsement. A rate of $3.50 applied. Payroll of $3,500 is added to the policy. It is further agreed this additional premium charge is fully earned and the minimum earned premium is amended to read $47,370. Policy payroll now totals $1,353,409.

All other terms and conditions of this policy remain unchanged.

TD - 007 ODC 1A

ace usa

FORMS AND ENDORSEMENTS SUMMARY PAGE

COMPANY NAME:	ACE American Insurance Company		
NAMED INSURED:	Metabiota, Inc		
POLICY NUMBER:	D37429193 001	**DECLARATIONS EFFECTIVE:**	December 22, 2014

This policy consists of the following forms and endorsements attached to this policy at inception:

IT8003	05-2014	Defense Base Act Workers Compensation And Employers Liability Insurance Policy
IT8017	11-2010	Amendment to Schedule in Defense Base Act Contract and/or Project Endorsement

The Coverage Forms and endorsements listed above and attached, complete the above numbered policy.

TD-007 ODC 1B



HILTON NEW ORLEANS/ST. CHARLES AVE
333 ST. CHARLES AVE
NEW ORLEANS, LA 70130
United States of America
TELEPHONE 504-378-2800 • FAX 504-524-8889
Reservations
www.hilton.com or 1 800 HILTONS

(b)(6)

8757 GEORGIA AVE
SUITE 420
SILVER SPRING MD 20910
UNITED STATES OF AMERICA

Room No.	1112/K1
Arrival Date	5/29/2015 4:06:00 PM
Departure Date	6/4/2015 11:50:00 AM
Adult/Child	2/0
Cashier ID.	**IKEDAJAMES/IKEDA**
Room Rate	151.00
AL	
HH #	861439411 GOLD
VAT #	
Folio No/Che	350927 A

Confirmation Number: 3177424635

HILTON NEW ORLEANS/ST. CHARLES AVE 6/10/2015 9:54:00 AM

DATE	DESCRIPTION	ID	REF NO	CHARGES	CREDIT	BALANCE
5/29/2015	GUEST ROOM	JCHAPITAL	1651976	$151.00		
5/29/2015	TAXES	JCHAPITAL	1651976	$23.27		
5/30/2015	GUEST ROOM	MCP	1652442	$151.00		
5/30/2015	TAXES	MCP	1652442	$23.27		
5/31/2015	GUEST ROOM	MCP	1653131	$151.00		
5/31/2015	TAXES	MCP	1653131	$23.27		
6/1/2015	GUEST ROOM	MCP	1653522	$151.00		
6/1/2015	TAXES	MCP	1653522	$23.27		
6/2/2015	GUEST ROOM	MCP	1653867	$151.00		
6/2/2015	TAXES	MCP	1653867	$23.27		
6/3/2015	GUEST ROOM	JCHAPITAL	1654389	$151.00		
6/3/2015	TAXES	JCHAPITAL	1654389	$23.27		

TD-007 Travel 1

34.

(b)(6)

8757 GEORGIA AVE
SUITE 420
SILVER SPRING MD 20910
UNITED STATES OF AMERICA

Room No	1112 K1
Arrival Date	5 29 2015 4 06 00 PM
Departure Date	6 4 2015 11 50 00 AM
Adult/Child	2 0
Cashier ID	IKEDAJAMES/IKEDA
Room Rate	151 00
AL	
HH #	861439411 GOLD
VAT #	
Folio N: Che	350927 A

Confirmation Number 3177424635

HILTON NEW ORLEANS ST CHARLES AVE 6 10 2015 9 54 00 AM

DATE	DESCRIPTION	ID	REF NO	CHARGES	CREDIT	BALANCE
6 4 2015	AX *1055	BRYAN508	1654643		($1,045 62)	
			BALANCE			$0 00

EXPENSE REPORT SUMMARY

	5 29 2015	5 30 2015	5 31 2015	6 1 2015
ROOM AND TAX	$174 27	$174 27	$174 27	$174 27
DAILY TOTAL	$174 27	$174 27	$174 27	$174 27

EXPENSE REPORT SUMMARY

	6 2 2015	6 3 2015	STAY TOTAL
ROOM AND TAX	$174 27	$174 27	$1,045 62
DAILY TOTAL	$174 27	$174 27	$1 045 62

CREDIT CARD DETAIL

APPR CODE	178814	MERCHANT ID	1170001432
CARD NUMBER	AX *1055	EXP DATE	04 16
TRANSACTION ID	1654643	TRANS TYPE	Sale

TD-007 Travel Ia

Subject: Fwd: Your Friday morning trip with Uber

Date: Saturday, May 30, 2015 at 8:35:25 AM Pacific Daylight Time

From: (b)(6)

(b)(6)

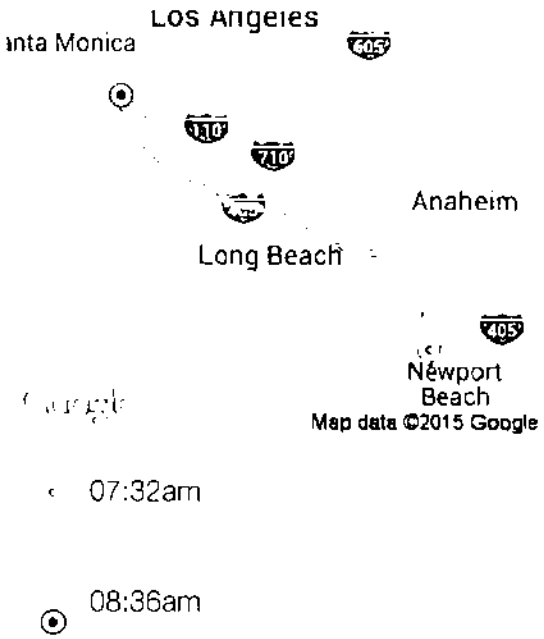
Sent from my iPhone

Begin forwarded message:

Resent-From: (b)(6)
From: Uber Receipts <receipts.orange.county@uber.com>
Date: May 29, 2015 at 10:37:33 AM CDT
Resent-To: (b)(6)
To: (b)(6)
Subject: Your Friday morning trip with Uber

2A 56.02
2B 45.00
2C 37.95
138.97

$56.02



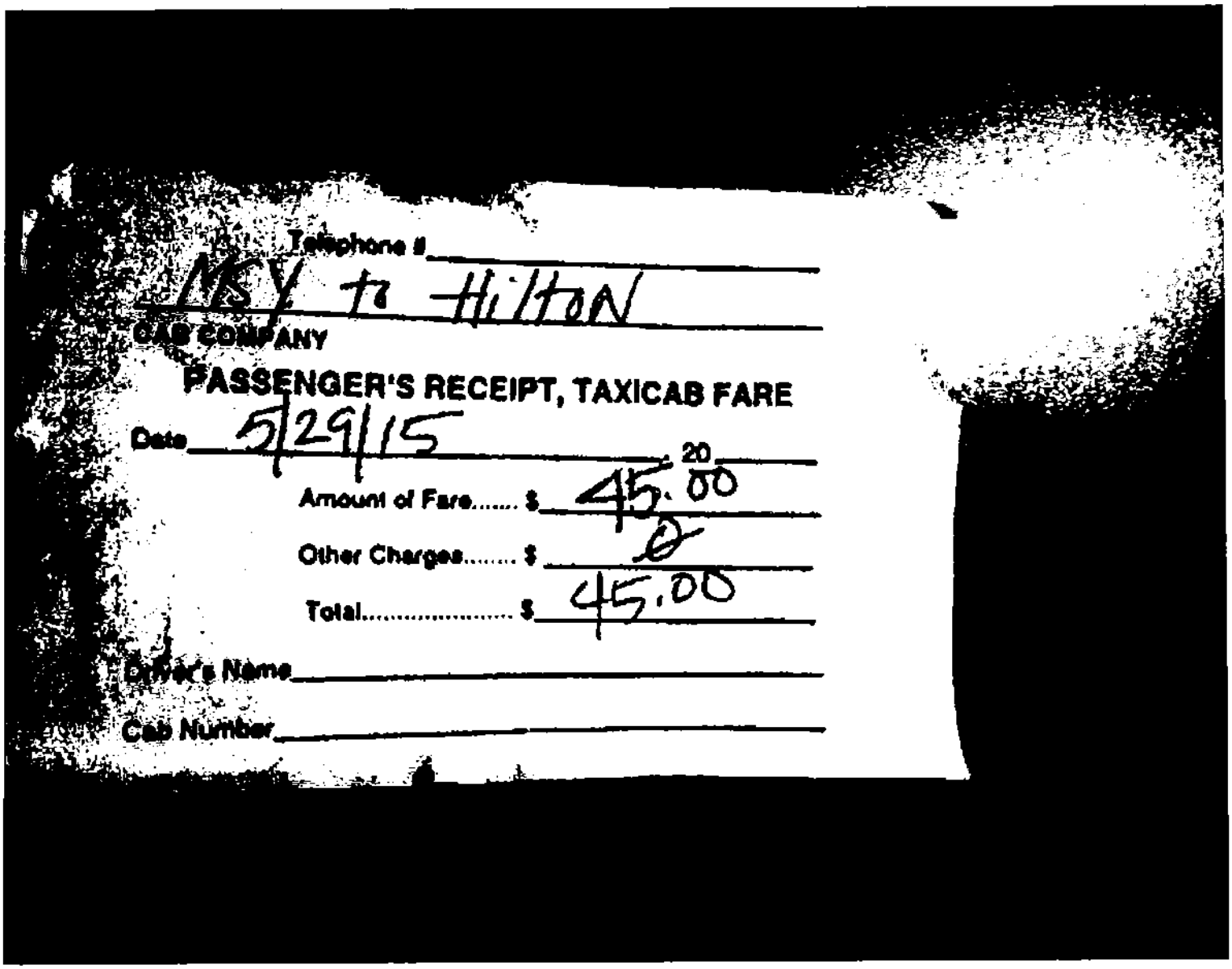
07:32am

08:36am

FARE BREAKDOWN

	0.00
	43.58
	11.44
Subtotal	**$55.02**
	1.00
	$56.02

TD-007 Travel 2A



Telephone # _____

MSY to Hilton

CAB COMPANY

PASSENGER'S RECEIPT, TAXICAB FARE

Date 5/29/15 20__

Amount of Fare..... $ 45.00

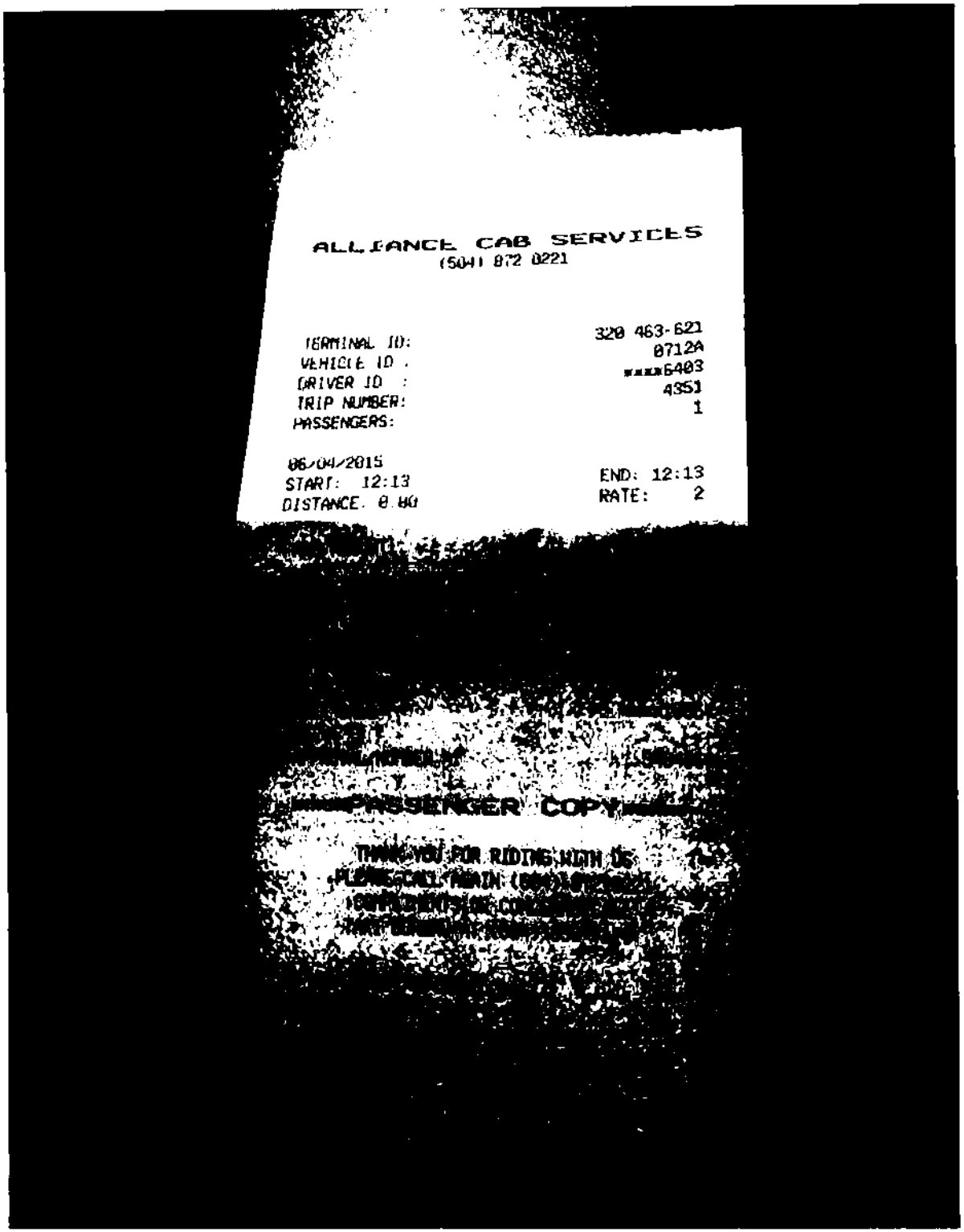
Other Charges..... $ 0

Total..... $ 45.00

Driver's Name _____

Cab Number _____

TD-007 Travel 2b



ALLIANCE CAB SERVICES
(504) 872 0221

TERMINAL ID:	320 463-621
VEHICLE ID :	0712A
DRIVER ID :	****6403
TRIP NUMBER:	4351
PASSENGERS:	1

06/04/2015
START: 12:13 END: 12:13
DISTANCE: 0.00 RATE: 2

PASSENGER COPY

THANK YOU FOR RIDING WITH US

TD 007 Travel 2C

BDO

PAN PACIFIC MANILA PHI
ADVISTECO COR MALCAR STS.,
MALATE
MANILA
TERM [illegible] MERC [illegible]
CARD TYPE AMEX
**********2293
JEFFREY J DEGLE
OFFLINE
BATCH NO. [illegible] TRACE NO. [illegible]
DATE/TIME JUL 23, 15 [illegible]
APPR.CODE [illegible]
TOTAL PHP 16,500.00

* OFFLINE ENTERED *

I AGREE TO PAY ABOVE TOTAL AMOUNT
ACCORDING TO CARD ISSUER AGREEMENT
— CUSTOMER COPY —

PAN PACIFIC
Manila

Room No.	: 1119
Arrival	: 20-07-15
Departure	: 23-07-15
Folio No.	: 344210
Cashier No.	: 232
User ID	: CJLIMBO
Page No.	: 1 of 1

23-JUL-15 08 28 AM

ith Organization

		Debit	Credit
		5,500.00	
		5,500.00	
22-07-15	Package Charge	5,500.00	
23-07-15	American Express		16,500.00 (b)(6)

Total	16,500.00	16,500.00
Total VAT	0.00 PHP	
Balance	0.00 PHP	

$ 371.99

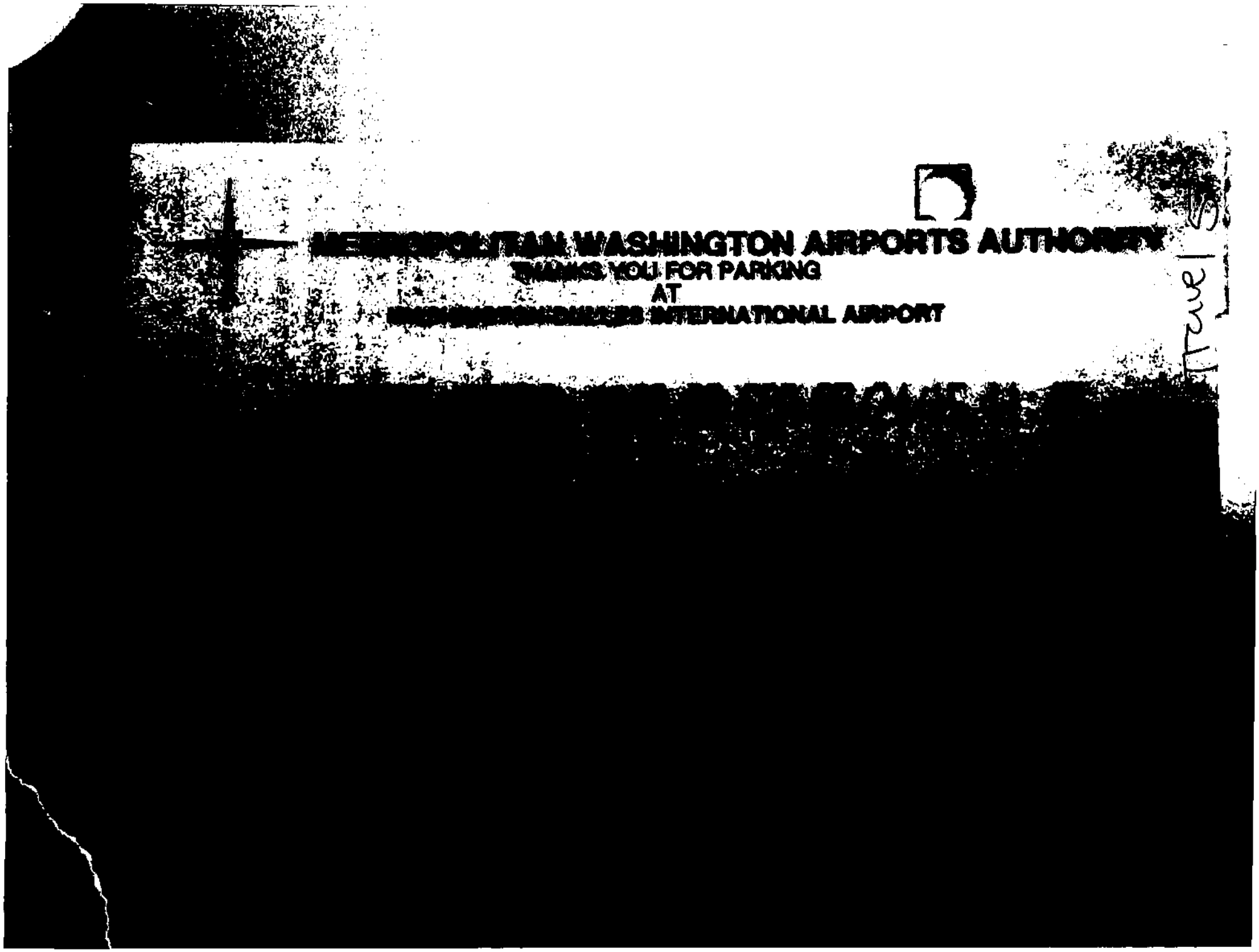
Guest Signature

I agree that I am personally liable for the following statements and if the person, company or association indicated by me as responsible for payment of the same does not do so, that my liability for such payments shall be joint and several with such person, company or association.

Always Book Direct at panpacific.com
Enjoy the best rate and attactive benefits

1/12/21 200-01

La Yellow Cab
Cab #6361
424 222-2222
Gardena, CA
06 04 15 16:37
START TIME:
1535
END TIME: 1637
37.60


METROPOLITAN WASHINGTON AIRPORTS AUTHORITY
THANKS YOU FOR PARKING
AT
INTERNATIONAL AIRPORT

Printable Version

ETICKET RECEIPT IS ATTACHED
******** PLEASE REVIEW YOUR ITINERARY CAREFULLY********
DISCREPANCIES MUST BE BROUGHT TO OUR ATTENTION WITHIN 24 HOURS.
AFTER THAT TIME, ANY PENALTIES INCURRED DUE TO CHANGES ARE THE RESPONSIBILITY OF THE TRAVELER.

Kentlands Travel

UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone: (301) 948-2448

METABIOTA@UNIGLOBEKENTLANDS.COM

Passenger(s):	(b)(6)	**Booking Ref.:**	6X8U6O
Invoice No.:	68954	**Agent:**	(b)(6)
Issue Date:	Wednesday, June 17, 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

• If you would like to view your reservation online: Click Here

• For Aircraft Disinsection Requirements: Click Here

AIR - Sunday, July 19 2015

United Airlines Flight UA145 Economy Class

Check In Confirmation: GSCX8F *(*24 Hours Prior)*

Depart:	8:55 AM, Sunday, July 19 Dulles Intl Airport Washington, Dist. of Columbia, USA	**Arrive:**	1:09 PM, Sunday, July 19 Honolulu Intl. Airport-Terminal M Honolulu, Hawaii, USA
Status:	Confirmed		
Booking Code:	S		
Equipment:	Boeing 767-400	**Stops:**	Non-stop
Duration:	10 hours 14 minutes	**Seat:**	40K (Non smoking) Confirmed
FF Number:	UAHTH31263	**Meal:**	Food For Purchase

AIR - Sunday, July 19 2015

United Airlines Flight UA201 Economy Class

Check In Confirmation: GSCX8F *(*24 Hours Prior)*

Depart:	2:20 PM, Sunday, July 19 Honolulu Intl. Airport-Terminal M Honolulu, Hawaii, USA	**Arrive:**	6:00 PM, Monday, July 20 A.B. Won Pat Intl Airport Guam, Guam
Status:	Confirmed		
Booking Code:	S		
Equipment:	Boeing 777	**Stops:**	Non-stop
Duration:	7 hours 40 minutes	**Seat:**	35C (Non smoking) Confirmed
FF Number:	UAHTH31263	**Meal:**	Food For Purchase

AIR - Monday, July 20 2015

United Airlines Flight UA183 Economy Class

Check In Confirmation: GSCX8F *(*24 Hours Prior)*

Depart:	7:25 PM, Monday, July 20	**Arrive:**	9:10 PM, Monday, July 20

TO 007 Travel 6a

	A.B. Won Pat Intl Airport Guam, Guam		Ninoy Aquino Intl Airport-Terminal 1 Manila, Philippines

Status:	Confirmed		
Booking Code:	S		
Equipment:	Boeing 737-800	**Stops:**	Non-stop
Duration:	3 hours 45 minutes	**Seat:**	26C (Non smoking) Confirmed
FF Number:	UAHTH31263	**Meal:**	Dinner

AIR - Thursday, July 23, 2015

United Airlines Flight UA184 Economy Class

Check In Confirmation:
GSCX8F *(*24 Hours Prior)*

Depart:	10:25 PM, Thursday, July 23 Ninoy Aquino Intl Airport-Terminal 1 Manila, Philippines	**Arrive:**	4:25 AM, Friday, July 24 A.B. Won Pat Intl Airport Guam, Guam

Status:	Confirmed		
Booking Code:	S		
Equipment:	Boeing 737-800	**Stops:**	Non-stop
Duration:	4 hours 0 minutes	**Seat:**	32D (Non smoking) Confirmed
FF Number:	UAHTH31263	**Meal:**	Dinner

AIR - Friday, July 24, 2015

United Airlines Flight UA828 Economy Class

Check In Confirmation:
GSCX8F *(*24 Hours Prior)*

Depart:	6:55 AM, Friday, July 24 A.B. Won Pat Intl Airport Guam, Guam	**Arrive:**	9:40 AM, Friday, July 24 Narita Airport-Terminal 1 Tokyo, Japan

Status:	Confirmed		
Booking Code:	S		
Equipment:	Boeing 777	**Stops:**	Non-stop
Duration:	3 hours 45 minutes	**Seat:**	29G (Non smoking) Confirmed
FF Number:	UAHTH31263	**Meal:**	Breakfast

AIR - Friday, July 24, 2015

United Airlines Flight UA7942 Economy Class
Operated By All Nippon Airways
Check In With All Nippon Airways (NH2)

Check In Confirmation:
GSCX8F

Depart:	11:00 AM, Friday, July 24 Narita Airport-Terminal 1 Tokyo, Japan	**Arrive:**	10:40 AM, Friday, July 24 Dulles Intl Airport Washington, Dist. of Columbia, USA

Status:	Confirmed		
Booking Code:	S		
Equipment:	Boeing 777-300ER	**Stops:**	Non-stop
Duration:	12 hours 40 minutes	**Seat:**	Assigned at Check In
FF Number:	UAHTH31263	**Meal:**	Meal

Invoice Details

Transaction / Document	Base	Tax	Total
United Airlines / 016 762535741516	1230.00	434.00	1664.00

Form of Payment: AX XXXXXXXXXXXX2293

TD007 Travel 66

Processing Fee / 890 0658310397		43.00		43.00
	Form of Payment: AX XXXXXXXXXXXX2293			
	Totals:	1273.00	434.00	USD 1707.00

Total Charged to Credit Card: USD 1707.00
Balance Due: USD 0.00

Fare Rules

• Airline policy - Fare is not guaranteed until ticketed. This ticket is non refundable and non transferable. Changes are subject to fare Upgrade and change fee. Missing your flight without cancellation may result in the forfeiture of the value of your airline ticket.

Baggage Fees & Allowances

Baggage allowance, specific size and weight restrictions vary between airlines. Please visit the link below to view the allowances and possible fees for your trip.

- Baggage Fees/Allowances

Important Information

• Your reservation number with United Airlines is GSCX8F. United Airlines contact phone number is 1-800-538-2929.

• Please check in at least 3 hours prior to departure. Late checkin may result in the loss of seat/reservation check in cut off time varies per carrier. Confirm with your carrier to avoid denied boarding.

• A valid passport is required for your journey. Passport must be valid at least 6 months beyond intended stay

• Passengers may carry travel sized toiletries or liquids 3 oz or less through security check points. They must fit in one quart sized, clear plastic zip-top bag. Visit www.tsa.gov.

• --TRAVEL ADVISORY ISSUED FOR Philippines --

• United Airlines freq flyer nbr hth31263 appended

• This is an electronic ticket valid only on issuing airline.

• Passport and Etkt itinerary required for check in. Boarding passes required prior to entering security.

• Monday-Friday 9am-6pm EASTERN TIME CALL 1-800-552-6425. -FOR EMERGENCY SERVICE AFTER HOURS CALL 1-888-565-9174 AND GIVE -ACCESS CODE DCA352100. NOTE: IT IS NOT POSSIBLE TO MAKE NEW -RESERVATIONS WITH THE AFTER HOURS SERVICE. EMERGENCY TRAVEL ASSIST COLLECT IN Guam/Japan 416 928-5404. EMERGENCY TRAVEL ASSIST COLLECT IN Philippines/Japan 416. -- See website http://travel.state.Gov **to view details.-- -Emergency travel assist in Japan call collect 416 928-5404**

Invoice No: 68954

access more

Federal law forbids the carriage of certain hazardous materials, such as aerosols, fireworks, and flammable liquids, aboard the aircraft. If you do not understand these restrictions, contact your airline or go to: http://www.faa.gov/about/initiatives/hazmat_safety/

For Aircraft Disinsection Requirements: http://ostpxweb.dot.gov/policy/safetyenergyenv/disinsection.htm

Sent To: invoices@uniglobekentlands.com; vatgulinajan@yahoo.com; notesprocess@uniglobekentlands.com

TD 007 6C

Delta Air Lines Flight DL4652 Economy Class
Operated By Skywest Dba Delta Connection
Check In With SKYWEST DBA DELTA CONNECTION

Check In Confirmation:
GHNnVF

Depart:	10:00 AM Friday, June 19 Dulles Intl Airport Washington, Dist. of Columbia, USA	**Arrive:**	11:29 AM, Friday, June 19 Wayne County Airport-Terminal Em Detroit, Michigan, USA
Status:	Confirmed	**Booking Code:**	Q
Equipment:	Canadair Regional Jet	**Stops:**	Non-stop
Duration:	1 hours 29 minutes	**Seat:**	09B (Non smoking, Aisle) Confirmed
Phone:	1-800-221-1212	**Meal:**	None

Weather | Flight Status (up to 3 days prior)

Delta Air Lines Flight DL275 Economy Class

Check In Confirmation:
GHNnVE (*24 Hours Prior)

Depart:	1:55 PM, Friday, June 19 Wayne County Airport-Terminal Em Detroit, Michigan, USA	**Arrive:**	9:35 PM, Saturday, June 20 Ninoy Aquino Intl Airport-Terminal 3 Manila, Philippines
Status:	Confirmed	**Booking Code:**	Q
Equipment:	Boeing 747-400	**Stops:**	Tokyo
Duration:	19 hours 40 minutes	**Seat:**	Assigned at Check
Phone:	1-800-221-1212	**Meal:**	Dinner

Weather | Flight Status (up to 3 days prior)

Philippine Airlines Flight PR1849 Economy Class

tion:
YZ7J

Depart:	9:00 AM Tuesday, June 23 Ninoy Aquino Intl Airport-Termina 2 Manila, Philippines	**Arrive:**	10:15 AM Tuesday, June 23 Mactan Intl Airport Cebu, Philippines
Status:	Confirmed	**Booking Code:**	N
Equipment:	Airbus Industrie A321	**Stops:**	Non-stop
Duration:	1 hours 15 minutes	**Seat:**	23C (Non smoking) Confirmed
Meal:	Snack or Brunch		
Remarks:	Not eligible for web check in		

Weather | Flight Status (up to 3 days prior)

Philippine Airlines Flight PR1836 Economy Class

Check In Confirmation:
[illegible]

Depart:	4:50 AM, Saturday, June 27 Mactan Intl Airport Cebu, Philippines	**Arrive:**	6:00 AM Saturday, June 27 Ninoy Aquino Intl Airport-Terminal 2 Manila, Philippines
Status:	Confirmed	**Booking Code:**	N
Equipment:	Airbus Industrie A321	**Stops:**	Non-stop
Duration:	1 hours 10 minutes	**Seat:**	23C (Non smoking) Confirmed
Meal:	Snack or Brunch		
Remarks:	Not eligible for web check in		

Weather | Flight Status (up to 3 days prior)

TO 007 Travel 9

Delta Air Lines Flight DL276 Economy Class

Check In Confirmation:
GHNHVE (*24 Hours Prior)

Depart:	9 25 AM, Saturday, June 27 Ninoy Aquino Intl Airport-Terminal 3 Manila, Philippines	**Arrive:**	4 28 PM, Saturday, June 27 Wayne County Airport-Terminal Em Detroit, Michigan, USA
Status:	Confirmed	**Booking Code:**	L
Equipment:	Boeing 747-400	**Stops:**	Tokyo
Duration:	19 hours 3 minutes	**Seat:**	Assigned at Check In
Meal:	Breakfast		

Weather | Flight Status (up to 3 days prior)

Delta Air Lines Flight DL5121 Economy Class
Operated By Expressjet Dba Delta Connection
Check In With EXPRESSJET DBA DELTA CONNECTION

Check In Confirmation:
GHNHVE

Depart:	6 27 PM, Saturday, June 27 Wayne County Airport-Terminal Em Detroit, Michigan, USA	**Arrive:**	9 56 PM, Saturday, June 27 Dulles Intl Airport Washington, Dist of Columbia, USA
Status:	Confirmed	**Booking Code:**	L
Equipment:	Canadair Regional Jet 700	**Stops:**	Non-stop
Duration:	1 hours 29 minutes	**Seat:**	14C (Non smoking, Aisle) Confirmed
Phone:	1-800-221-1212	**Meal:**	None

Weather | Flight Status (up to 3 days prior) | Dining Reservations

Transaction / Document		Base	Tax	Total
Delta Air Lines	06 7621199972 73	2313 00	445 66	2758 66
	Form of Payment AX XXXXXXXXXXXX1055			
Processing Fee	890 0658133159	43 00		43 00
	Form of Payment AX XXXXXXXXXXXX1055			
	Totals:	2356 00	445 66	USD 2801 66

Total Charged to Credit Card: USD 2801 66
Balance Due: USD 0 00

• Airline policy - Fare is not guaranteed until ticketed. This ticket is non refundable and non transferable. Changes are subject to fare Upgrade and change fee. Missing your flight without cancellation may result in the forfeiture of the value of your airline ticket

Baggage allowance, specific size and weight restrictions vary between airlines. Please visit the link below to view the allowances and possible fees for your trip

- Baggage Fees & Allowances

7a

Duration:	11 hours 35 minutes	**Seat:**	68D (Non smoking Aisle) Confirmed
FF Number:	UAWKW91787	**Meal:**	Meal

• Weather • Flight Status [illegible]

Invoice Details

Transaction / Document		Base	Tax	Total
Delta Air Lines / 006 7621199134		3254 00	200 72	3454 72
	Form of Payment AX XXXXXXXXXXXXX1055			
Asiana Airlines / 988 7621199135		1502 00	10 91	1512 91
	Form of Payment AX XXXXXXXXXXXXX1055			
United Airlines / 016 7621199136		2875 00	401 22	3276 22
	Form of Payment AX XXXXXXXXXXXXX1055			
Philippine Airlines / 079 7621199137		176 00	4 49	180 49
	Form of Payment AX XXXXXXXXXXXXX1055			
Processing Fee / 890 0658174672		43 00		43 00
	Form of Payment AX XXXXXXXXXXXXX1055			
	Totals:	7850 00	617 34	USD 8467 34

Total Charged to Credit Card: USD 8467 34

Balance Due: USD 0 00

Baggage Fees & Allowances

Baggage allowance specific size and weight restrictions vary between airlines Please visit the link below to view the allowances and possible fees for your trip

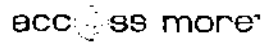
- Baggage Fees/Allowances

Important Information

• Delta lax-mnl $3454 72 Philippines mnl-ceb $180 49 asiana ceb-ala $1512 91 United ala-lax $3277 21 total $8425 33 refundable

Invoice No. 68388~68389~68390~68391

access more



Federal law forbids the carriage of certain hazardous materials such as aerosols fireworks and flammable liquids aboard the aircraft If you do not understand these restrictions contact your airline or go to http://www faa gov about/initiatives hazmat_safety

For Aircraft Disinsection Requirements http cstpxweb dot gov policy safetyenergyenv disinsection htm

Sent To (b)(6) [redacted] invoices@uniglobekentlands com

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TD 007 Regional Baseline Assessment

Objectives

Characterize the region based on the disease landscape, organic regional capabilities, and external factors that impact CBEP objectives, identify needs and areas of overlap with other stakeholders, and provide overarching strategic guidance & goals to CBEP PACOM Country Managers in the development of country engagement strategies.

Period of Performance: 05/16/2015 – 10/31/2015

CLIN	TOTAL COST	Total Invoiced	Total Remaining
1002	$802,669.00	$834,630.44	$31,961.43
1003	$27,711.00	$6,844.11	$20,866.89
1004	$8,452.33	$160.61	$8,291.72
1005	$11,656.82	$8,842.56	$2,814.26
TOTAL	$850,489.15	$850,477.71	$11.44

CLIN 1002 – Labor

Program Manager: 178 Hours

(b)(6) provided program oversight coordinating all team members in regular meetings to ensure submission of required deliverables and finalization of the regional baseline analysis. She participated in routine communications and meetings with the project team, CBEP leadership, and SMEs to finalize the analysis.

Subject Matter Experts 1: 1057.5 Hours

(b)(6) provided oversight and coordination as a team leader and facilitated completion of deliverables and required research and development of all materials in support of the regional baseline analysis. She directly coordinated with all project personnel, tracked data and research requirements, and compiled all information for submission at established deadlines. She participated and coordinated routine project meetings with CBEP personnel and project team members.

Additional SME 1 hours were used to complete pathogen profiles, continue research and compilation of data supporting the regional baseline analysis. The team assisted with revisions to Vol 1 and II following comments received by CBEP to drive towards completion of the analysis. In addition, the team provided editing, referencing, graphics, and compilation support to the overall project.

Subject Matter Experts 2: 285.5 Hours

Subject Matter Expert 2 hours were spent in review and finalization of pathogen profiles, stakeholder profiles, likelihood and severity factors, and overall data completion and narrative required for the baseline analysis. They provided overall research support to the project and provided data to the project coordinator for inclusion in the final report.

Subject Matter Experts 3: 339.50 Hours

Subject Matter Expert 3 hours were spent to finalize and review Volume II materials and provide critical input in Volume I. Following receipt of comments by CBEP and required revisions to meet the project expectations, senior level SMEs were brought in to provide additional QAQC of data and deliverables,

provided editing and additional research analysis, ensuring all CBEP requirements were met and the analysis would meet the final objectives.

Research and Data Analysts: 1179 Hours

Research and Data Analysts provided base data and backup documentation to the Subject Matter Experts for interpretation and review. They provided editing and administrative services in addition to assisting with compilation of all data, graphics, and basic research conducted in support of the project.

CLIN 1003 – Materials and Supplies

Material costs invoiced include the materials for completing the printed and electronic copies of the regional baseline analysis draft deliverables delivered to CBEP at the scheduled submission and review dates. Communication and Internet costs for (b)(6) were incurred for remote attendance at meetings and to facilitate project requirements.

CLIN 1004 – ODCs

No ODC Costs were incurred during this period.

CLIN 1005 – Travel

Travel costs included in the invoice reflect costs incurred by team members originally scheduled to attend the APBA conference. However, as travel was canceled all costs were refunded and not charged to the government outside of fees for airfare and conference processing costs.

Travel invoiced also includes costs for (b)(6) to travel to DC in order to coordinate with team members in finalization and presentation of the draft and final deliverables on the regional analysis, as well as to participate in in person meetings with DTRA CBEP.

Metabiota

TO-007 Regional Baseline Assesment

CLIN 1002 LABOR

NAME	LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED
[redacted]						

(b)(4); (b)(6)

CLIN 1003 Materials

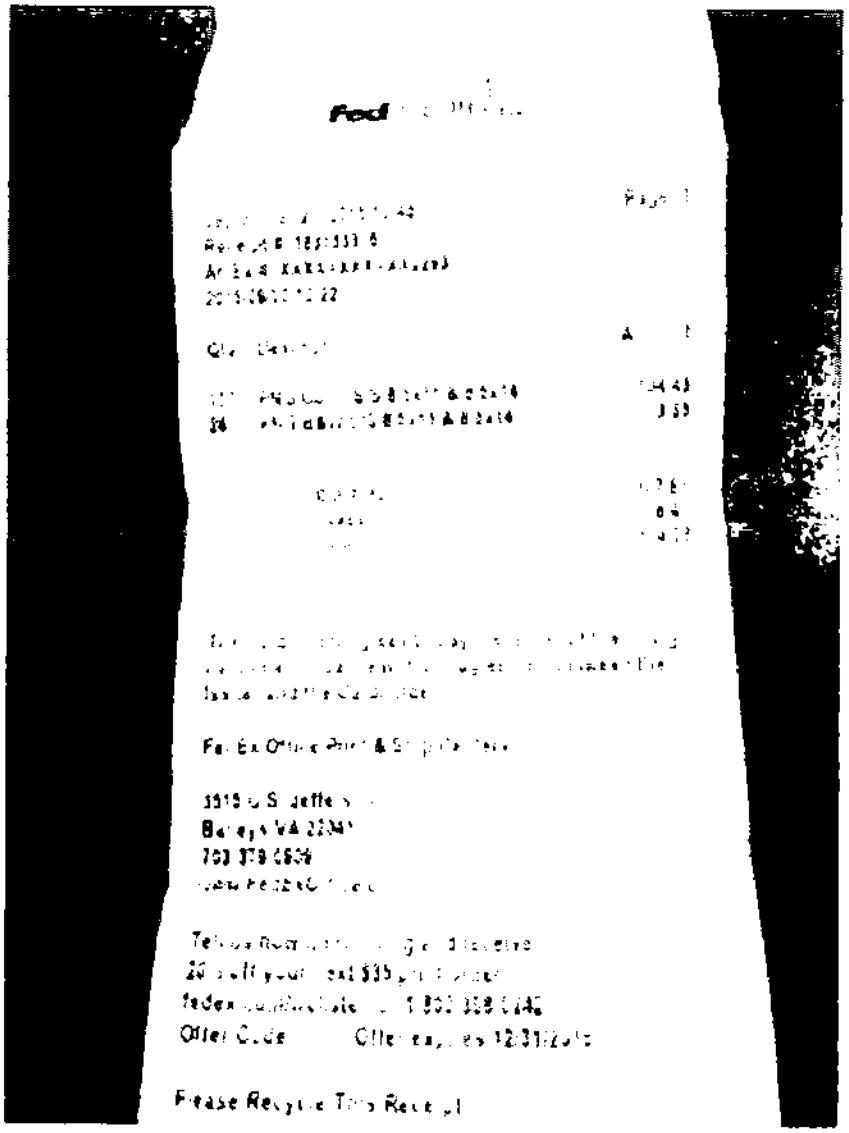
TRANSACTION		CURRENT INVOICE	CUMULATIVE INVOICED
Printing services for PACOM pr	1	$ 114.28	
AEP RBA PACOM Draft - Printing	2	$ 141.97	

Printing materials for CBEP			3	$	124.55	
Making materials CD for CBEP			4	$	9.53	
Printing project materials for			5	$	26.37	
Making a CD of project materia			6	$	10.55	
Internet			7	$	95.00	
PACOM Printing Draft Deliverab			8	$	1,623.64	
PACOM Draft Deliverable - 2 Se			9	$	8.31	
PACOM RBA Draft Deliverable -			10	$	22.18	
AEP PACOM Communications			11	$	12.00	
AEP PACOM			12	$	95.00	
				$	**2,283.38**	$ **6,501.48**
			5.27%	**$**	**120.33**	**$ 342.63**
				$	**2,403.71**	**$ 6,844.11**

CLIN 1005 TRAVEL

TRANSACTION				CURRENT INVOICE	CUMULATIVE INVOICED
PACOM TRAVEL	AEP PACOM regional baseline an	Per Diem	$	71.00	
PACOM TRAVEL	AEP PACOM regional baseline an	Per Diem	$	71.00	
PACOM TRAVEL	AEP PACOM regional baseline an	Per Diem	$	53.25	
PACOM TRAVEL	AEP PACOM regional baseline an	Per Diem	$	53.25	
PACOM TRAVEL	AEP PACOM regional baseline an	Per Diem	$	71.00	
PACOM TRAVEL	AEP PACOM regional baseline an	Per Diem	$	71.00	
PACOM TRAVEL	AEP PACOM regional baseline an	Per Diem	$	71.00	
PACOM TRAVEL	AEP PACOM regional baseline an	Per Diem	$	71.00	
PACOM TRAVEL	AEP PACOM regional baseline an	Per Diem	$	71.00	
PACOM TRAVEL	AEP PACOM regional baseline an	Per Diem	$	71.00	
PACOM TRAVEL	AEP PACOM regional baseline an	Per Diem	$	71.00	
PACOM TRAVEL	AEP PACOM regional baseline an	Per Diem	$	71.00	
PACOM TRAVEL	PACOM landscape analysis	1	$	21.00	
PACOM TRAVEL	AEP PACOM baseline analysis -	2	$	80.32	
PACOM TRAVEL	AEP PACOM Meetings DC 24 Aug -	3	$	62.33	
PACOM TRAVEL	AEP PACOM -Draft Deliverable Lodging	4	$	1,804.52	
PACOM TRAVEL	AEP PACOM baseline analysis	5	$	186.60	
PACOM TRAVEL	APBA Conference Philippines 20	6	$	61.06	
PACOM TRAVEL	APBA Conference Philippines 20	7	$	2,035.38	
PACOM TRAVEL	APBA Conference Registration Refund	8	$	(1,691.13)	
PACOM TRAVEL	AEP PACOM landscape analysis	9	$	768.10	

	$ 4,144.68	$ 8,842.56
TOTAL INVOICE	$ 390,226.88	$ 850,477.71



TD 7 #1

Materials

FedExOffice

141.97
0.00

141.97

141.97

141.97

34.25
7.12
0.00

12 x 18

TD 7 #2
Materials

FedEx Office

FedEx Office is your destination
for printing and shipping.

8998 Lorton Station Blvd
Lorton, VA 22079
Tel: (703) 339-6335

9/21/2015 1:15:28 PM EST
Team Member: (b)(6)

SALE

Coil Premium	1 @	5.9900 T
004077 Reg. Price	5.99	
CLR 1S Copy/Print	189 @	0.5900 T
000173 Reg. Price	0.65	
Regular Total	128.84	
Discounts	11.34	
Total	**117.50**	

Sub-Total	117.50
Tax	7.05
Deposit	0.00
Total	**124.55**
AmEx (S)	124.55
Account: 1436	
Auth: 505978 (A)	
Total Tender	124.55
Change Due	0.00

TD 7 #3
Materials

EXHIBIT #13
(American Express Corporate Card CBCP - 1436)

[redacted] Tax # 770433330

American Express
TRANSACTION DATE: Wednesday, September 09, 2015
POSTED DATE Thursday, September 10, 2015
BILLING DATE Monday, September 28, 2015CREDIT
CARD# xxxx1436

Transaction Amount $9.53
Ref # 152520375280663787504236243501040922O
FEDEXOFFICE 00077401 LORTON VA

TD 7 #4
Materials

ard 1

[redacted] WASH NGTON DC 20004 171
[redacted] Tax # 7 0433330

American Express
TRANSACTION DATE Wednesday June 24 201
POSTED DATE Thursday June 25 201
BILLING DATE Sunday June 28 2015
CREDIT CARD# xxxx1436

Transaction Amount $26 37

Ref # 151750375280663787504236243501039276B
FEDEXOFFICE 00203447 WASHINGTON DC

TO 7 #5

i

rd C 1

FEDEX OFFICE #1833
FAIRFAX VA 22031 3798
Tax # 770433330

American Express
TRANSACTION DATE Monday June 15 2015
POSTED DATE Tuesday June 16 2015
BILLING DATE Sunday June 28 2015
CREDIT CARD# xxxx1436

Transaction Amount $10.55

Ref # 1516603752806637875042362435010695616

TD 7#6

Project:	01021.01.103.SEA.01	**Status:**	Active
Project Description:	PACOM MATERIALS	**Project Classification:**	DIRECT PROJECT
Organization:	10.10.10.01	**Project Type:**	T&M
Prime Contract No:		**Period of Performance:**	None
Subcontract No:		**Customer:**	DTRA
Purchase Order No:		**Project Abbreviation:**	

Name	JE No./ Vchr No.	Invoice	Transaction Description	Fiscal Year	Pd	Sub Pd	Amount
10 Consolidated							
	050-110-10 Direct Materials: Billabl						
Carlyle Gollogly	1655	271580CASH	Internet	2015	9	1	95.00

Home Internet Services @ $95/month thru 9/18/2015.

TD # 76

Balance Forward	**-$.02**	

Details of Current Charges

Includes discounts shown under Your Discounts.

Internet & Phone Bundle

Your monthly bundle price after the discounts shown under Your Discounts were applied.

Your bundle includes FiOS Internet 150/150 and FiOS Digital Voice Unlimited

Bundle Price	**$159.99**	8/19 - 9/18

Additional Services & Equipment

Equipment and additional services to personalize your FiOS service.

Services		
Nonpublished Listing	4.75	
Subtotal	**$4.75**	8/19 - 9/18

Fees & Other Charges

Includes both Verizon fees and governmental taxes and fees. For details, visit verizon.com/taxesandfees.

Taxes, Governmental Fees & Surcharges	
Federal Excise Tax	.15
911 State Tax	.11
California Relay Service and Communications Devices Fund	.07
CHCF-B and the CASF	.07
California Teleconnect Fund Surcharge	.16
CA Universal Lifeline Telephone Service	.55
CA High Cost Fund - A	.05
CA Local Utility User's Tax	2.51
Verizon Surcharges & Fees	
Federal Universal Service Fee	4.55
FDV Administrative Charge	.99
Subtotal	**$9.21**
Current Charges	$173.95
Total Due	**$173.93**

Additional Tax Details

Taxes, Fees and Other Charges

Voice

Federal Excise Tax	.15
911 State Tax	.11
California Relay Service and Communications Devices Fund	.07
CHCF-B and the CASF	.07
California Teleconnect Fund Surcharge	.16
CA Universal Lifeline Telephone Service	.55
CA High Cost Fund - A	.05
CA Local Utility User's Tax -Telecom	2.51

TD 7 # 76

FED USF-Special Access	4.55
FDV Administrative Charge	.99
Total Taxes, Fees and Other Charges	**$9.21**

TD7 #7C

Account Number: 350-145-888-0001-13

CARLYLE GOLLOGLY

Account Summary

Previous Period		
Previous Balance	173.77	
Payment Received - Thank You	-173.79	8/10
Balance Forward	**-$.02**	

Current Charges		
Internet & Phone Bundle	159.99	8/19 - 9/18
Additional Services & Equipment	4.75	8/19 - 9/18
Fees & Other Charges	9.21	
Current Charges	**$173.95**	
Total Due by September 12	**$173.93**	

To avoid a late payment charge on your total due over $20, payment must be received before Sep 19, 2015. The charge is $2.50 or 1.5% of your total due, whichever is greater.

TD 7 # 7d

TD # 8



FedEx Office

FedEx Office is your destination
for printing and shipping.

1612 K ST NW
Washington, DC 20006
Tel: (202) 466-3777

Team Member: Quirena M.
Customer: Carlyle Gallogly

9:40:46 AM EST

SALE

Price per piece	190.37
Regular Total	745.10
Discounts	174.00

Sub-Total	1,535.38
Tax	88.28
Deposit	0.00
Total	**1,623.64**
AmEx (S)	1,623.64
Account: 1055	
Auth: 579319 (A)	
Total Tender	1,623.64
Change Due	0.00

Total Discounts 440.40

FedEx Office

[illegible] Office is your destination [illegible] printing and shipping

[illegible] ST NW
Washington, DC [illegible]
Tel [illegible] 465-[illegible]

[illegible] 15 [illegible] AM EST
Team Member Quirena N.

SALE

CLR [illegible]	[illegible]	[illegible]
000[illegible] Reg. Price	[illegible]	
BW [illegible]	[illegible]	[illegible]
000[illegible] Reg. Price	[illegible]	
Machine [illegible]	[illegible]	[illegible]
000[illegible] Reg. Price	[illegible]	
Drill Per Sheet	[illegible]	
000371 Reg. Price	[illegible]	
Regular Total		
Discounts	[illegible]	
Total	88	

Sub-Total	[illegible]
Tax	[illegible].45
Deposit	[illegible]
Total	[illegible].31
AmEx (S)	8.[illegible]
Account: [illegible]	
Auth: 55[illegible]	
Total Tender	8.31
Change Due	0.00

Total Discounts 0.00

[illegible]2200386[illegible]0

[illegible]

TD 7 #9

FedEx Office

FedEx [illegible]
[illegible]

[illegible]
[illegible]
[illegible] (202) [illegible]

9/[illegible]/20[illegible] [illegible] PM [illegible]
Team Member Michael C.

[illegible]

BndrEcon [illegible]	[illegible]	[illegible]
004405 Reg. Price	8.39	
Regular Total	20.97	
Discounts	0.00	
Total	**20.97**	

Sub-Total	20.97
Tax	1.21
Deposit	0.00
Total	**22.18**
AmEx (S)	22.18
Account: 1055	
Auth: 594557 (A)	
Total Tender	22.18
Change Due	0.00

Total Discounts 0.00

1325 032081

TD 7 #10

VISA

CITY NATIONAL BANK
The way up

PO BOX 54830
LOS ANGELES CA 90054

MEMO STATEMENT

ACCOUNT NUMBER	XXXX XXXX XXXX 4551
CLOSING DATE	08-28-15
TOTAL ACTIVITY	$12.00

** MEMO STATEMENT ONLY **
DO NOT REMIT PAYMENT

(b)(6)
METABIOTA INC
TAKIA SMITH
425 CALIFORNIA ST STE 200
SAN FRANCISCO CA 94104-2104

**N0000160

IMPORTANT INFORMATION

Please see reverse side for important information, including additional disclosures regarding the annual fee.

CARDHOLDER SUMMARY

(b)(6) XXXX XXXX XXXX 4551	(b)(6) And Other Debits	+	Advances	−	Credits	=	Activity
Cardholder Total	$12.00		$0.00		$0.00		$12.00

FOR CUSTOMER SERVICE CALL
1-800-998-6206
INTERNATIONAL
800-773-71000

SEND INQUIRIES TO:
CREDIT CARD PROCESSING CENTER
DISPUTE RESOLUTION
PO BOX 84021
COLUMBUS GA 31908-4021

ACCOUNT NUMBER
XXXX-XXXX-XXXX-4551

CLOSING DATE	TOTAL CREDIT LINE
08/28/15	$8,000.00
DISPUTED AMOUNT	**CASH LIMIT***
$0.00	$1,800.00

*This represents a portion of your Total Credit Line.

ACCOUNT SUMMARY

PURCHASES & OTHER CHARGES	$12.00
CASH ADVANCES	.00
CASH ADVANCE FEES	.00
CREDITS	.00
TOTAL ACTIVITY	$12.00

CARDHOLDER ACTIVITY

Post Date	Tran Date	Reference Number	Transaction Description	Amount
		**********	NOTICE MEMO ITEMS LISTED BELOW **********	
08-17	08-12	74547065228010569963104	FOREIGN TRANSACTION FEE	M2.00
08-17	08-12	74547065228010569963104	SKYPE SUBSCRIPTION LUXEMBOURG	M10.00
		**********	TOTAL AMOUNT OF MEMO ITEM(S):	$12.00

TD 7 # 11

Primary Phone: (b)(6)
Account Number:

Bill Date: September 18, 2015

GET ANSWERS **FAST**
- Click to chat at **verizon.com/liveagent**
- Call **1.800.VERIZON (1.800.837.4966)**
- Customers with disabilities call **1.800.974.6006** (Voice or TTY)

Account Summary

Previous Period		
Previous Balance	173.93	
Payment Received - Thank You	-173.79	9/10
Overdue - Please Pay Now	$.14	

Current Charges		
Internet & Phone Bundle	159.99	9/19 - 10/18
Additional Services & Equipment	4.75	9/19 - 10/18
Fees & Other Charges	9.21	
Current Charges Due by October 13	$173.95	

Total Due **$174.09**

To avoid a late payment charge on your total due over $20, payment must be received before Oct 20, 2015. The charge is $2.50 or 1.5% of your total due, whichever is greater.

OFFERS & BENEFITS

Get Maximum Speeds

Go faster and farther with the FiOS Quantum Gateway router. Get more speed for more devices and enjoy faster Wi-Fi. Now everyone in your family can do what they love without battling for bandwidth. To upgrade, tune to channel 682 or visit verizon.com/FiOSQuantumGateway now.

Moving?

Call Verizon before you move to set up your Internet, TV and phone for your new home. Plus, ask about our great new money-saving bundles. Don't wait. Call 1.866.896.6837 before you move, and be sure to ask if FiOS is available in your area! Service availability varies.

Manage Your Account

My Verizon has everything you need online to help manage your services. Use My Verizon to pay bills, upgrade or renew services, get help & support, & check voice mail. Log on at verizon.com/myverizon.

Home internet service
@ $95/month through 10/18/

- MY FiOS app
- Pay by phone at 1.800.837.4966
- verizon.com/paymentlocations to pay in person
- Mail (use the stub below)

Send this stub with your payment

Account Number: 350-145-888-0001-13

Total Due: $174.09 091815

Make check payable to Verizon

$ _____.

(b)(6)
22002 BALBOA CIR
HUNTINGTON BH CA 92648- 8301

VERIZON
PO BOX 920041
DALLAS TX 75392-0041

V5 350145888000113 00000000014 00000174094

TD 7 # 12a

Primary Phone: 714-963-6460
Account Number: 350-145-888-0001-13

Bill Date: September 18, 2015

Optimize Speed

Get faster Wi-Fi speeds and maximize your entertainment with FiOS at verizon.com/speedoptimizer.

Your Discounts

	Price	Your Discounts	Amount You Pay
Bundle Discounts			
FiOS Internet 150/150	129.99	-10.00	119.99
FiOS Digital Voice Unlimited	40.00		40.00
Bundle Price	$169.99	-$10.00	$159.99

Internet discount expires 7/17/17

Discounts This Month -$10.00

Discounts have been applied to the Total Due shown on page 1.

verizon **FAST FACTS**

In-Home Agent

In-Home Agent is a computer-based application that provides fast, easy solutions to common High Speed Internet questions. It gives you 24/7 technical support at the click of your mouse! Visit verizon.com/inhomeagent for details.



FiOS TV Rated #1

We want to thank our customers for rating us #1 in TV customer satisfaction among paid TV providers by the 2015 American Customer Satisfaction Index.

FREQUENTLY ASKED QUESTIONS

How can I review my bill in more detail?

Review your bill at verizon.com/billview. Select 'View Details'.

How do I sign up for paper free billing?

You can enroll in paper free billing at verizon.com/paperfree.

If a credit or adjustment is applied, where do I find this on my bill?

Credits and Adjustments are located on page 3 of your bill. It may take up to two billing cycles for credits to be applied to your account and appear on your bill. You can also visit verizon.com/billview. Simply click Payment/Adjustment History on left navigation.

TD 7 # 12b

(b)(6)

Primary Phone: (b)(6)
Account Number:

Bill Date: September 18, 2015

GET ANSWERS ***FAST***
- Click to chat at **verizon.com/liveagent**
- Call **1.800.VERIZON (1.800.837.4966)**
- Customers with disabilities call **1.800.974.6006** (Voice or TTY)

Overdue Balance
Please Pay Now **$.14**

Details of Current Charges

Includes discounts shown on page 2.

Internet & Phone Bundle

Your bundle includes FiOS Internet 150/150 and FiOS Digital Voice Unlimited

Bundle Price	$159.99	9/19 - 10/18

Your [illegible] the discounts shown on page [illegible] applied.

Additional Services & Equipment

Equipment and additional services to personalize your FiOS service.

Services		
Nonpublished Listing	4.75	
Subtotal	**$4.75**	9/19 - 10/18

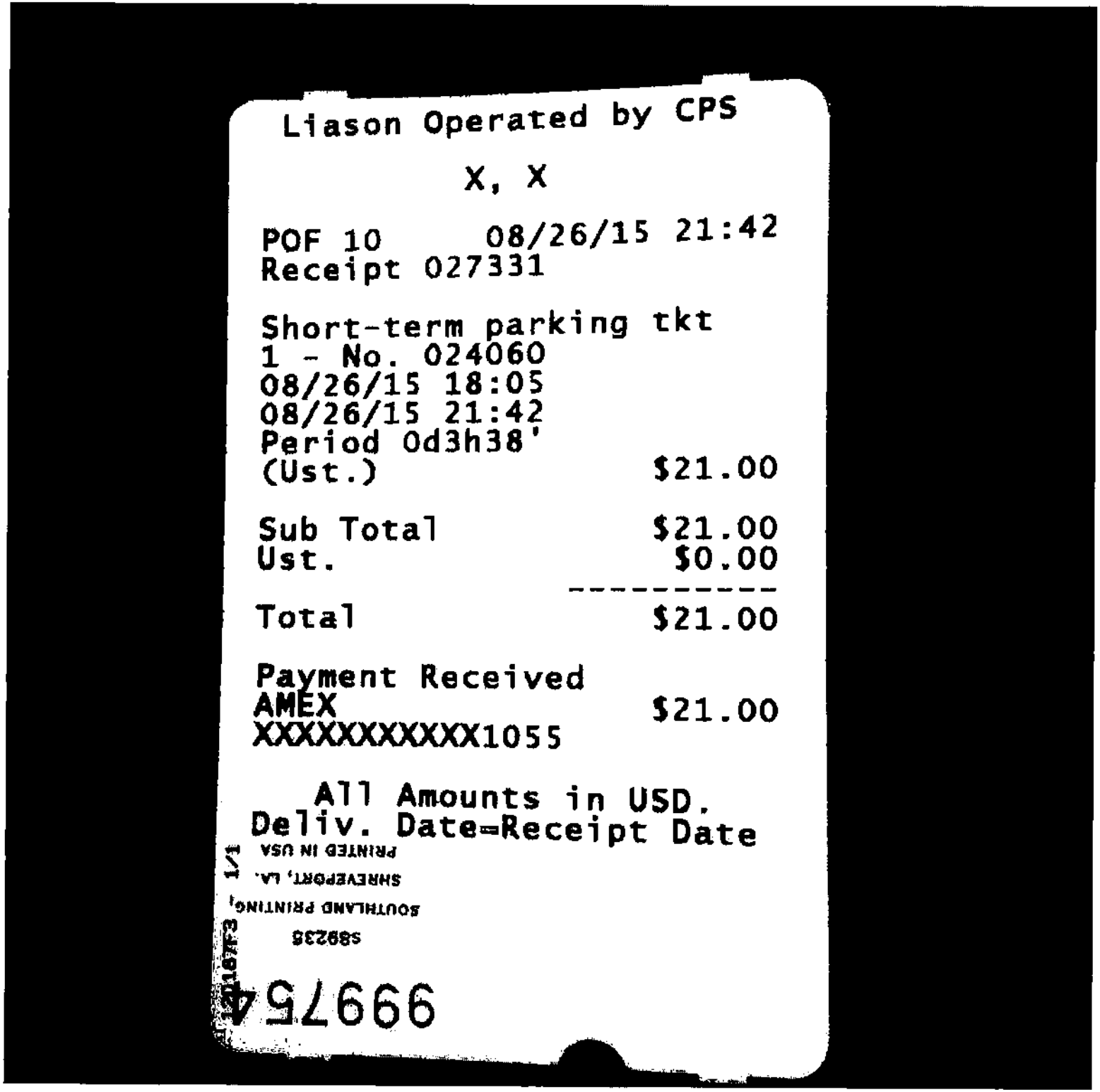
Fees & Other Charges

Includes both Verizon fees and governmental taxes and fees. For details, visit verizon.com/taxesandfees.

Taxes, Governmental Fees & Surcharges	
Federal Excise Tax	15
911 State Tax	.11
California Relay Service and Communications Devices Fund	.07
CHCF-B and the CASF	.07
California Teleconnect Fund Surcharge	.16
CA Universal Lifeline Telephone Service	.55
CA High Cost Fund - A	.05
CA Local Utility User's Tax	2.51
Verizon Surcharges & Fees	
Federal Universal Service Fee	4.55
FDV Administrative Charge	.99
Subtotal	**$9.21**

Current Charges	$173.95
Total Due	**$174.09**

TD 7 # 12C



Liason Operated by CPS

X, X

POF 10 08/26/15 21:42
Receipt 027331

Short-term parking tkt
1 - No. 024060
08/26/15 18:05
08/26/15 21:42
Period 0d3h38'
(Ust.) $21.00

Sub Total $21.00
Ust. $0.00

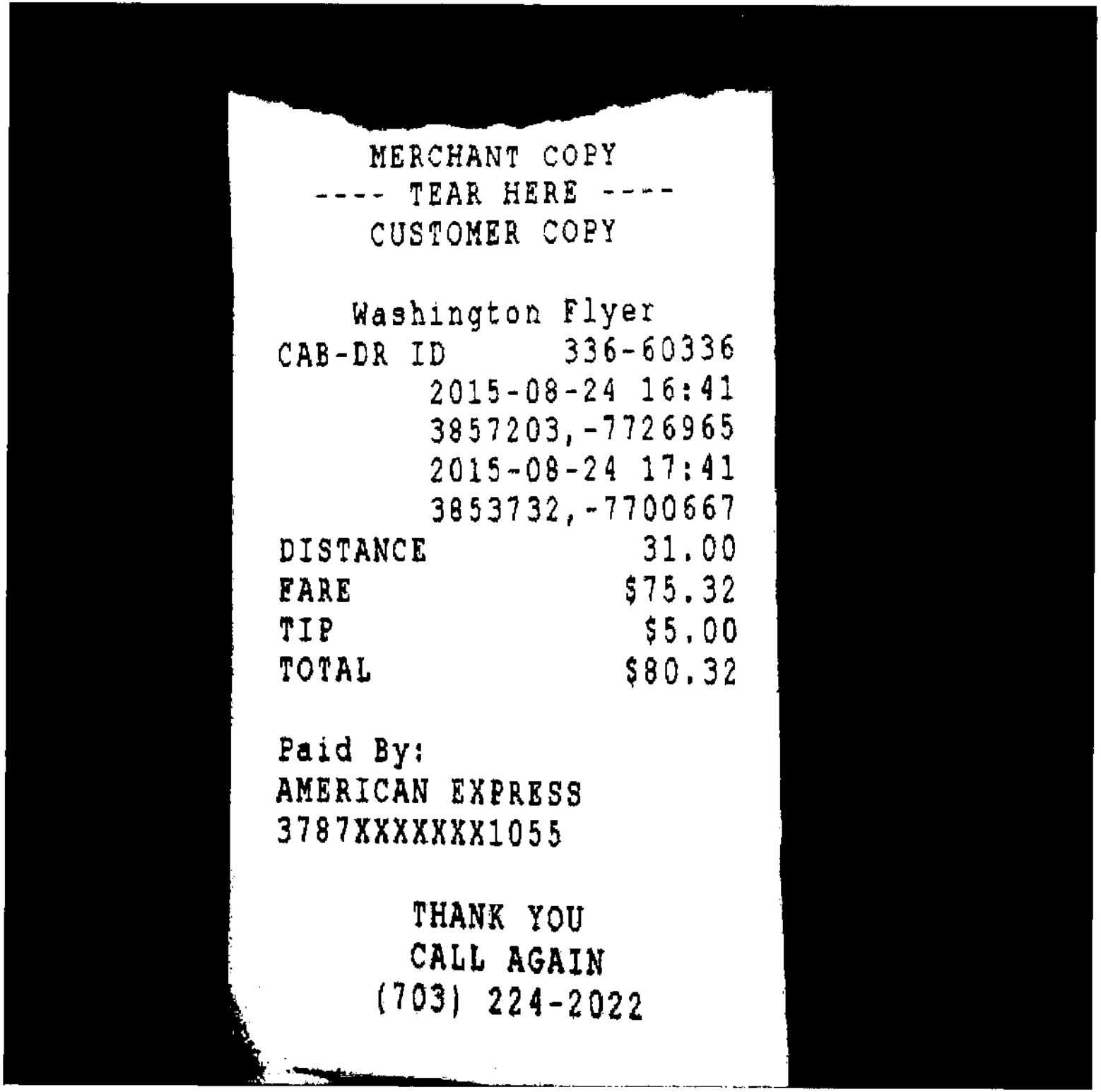
Total $21.00

Payment Received
AMEX $21.00
XXXXXXXXXXX1055

All Amounts in USD.
Deliv. Date=Receipt Date

PRINTED IN USA
SHREVEPORT, LA.
SOUTHLAND PRINTING
S89235
1/1
999754

TD 7 #1
Travel



MERCHANT COPY
---- TEAR HERE ----
CUSTOMER COPY

Washington Flyer
CAB-DR ID 336-60336
2015-08-24 16:41
3857203,-7726965
2015-08-24 17:41
3853732,-7700667
DISTANCE 31.00
FARE $75.32
TIP $5.00
TOTAL $80.32

Paid By:
AMERICAN EXPRESS
3787XXXXXXX1055

THANK YOU
CALL AGAIN
(703) 224-2022

TC # 3

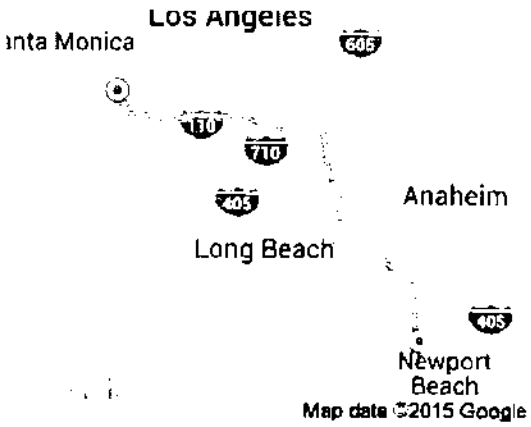
Subject: Fwd: Your Monday morning trip with Uber
Date: Tuesday, August 25, 2015 at 6:14:17 PM Eastern Daylight Time
From: (b)(6)
(b)(6)

Sent from my iPhone

Begin forwarded message:

Resent-From (b)(6)
From: Uber Receipts <receipts.orange.county@uber.com>
Date: August 24, 2015 at 10:52:12 AM EDT
To: (b)(6)
Subject: Your Monday morning trip with Uber

$62.33



FARE BREAKDOWN

Base Fare	0.00
Distance	47.48
Time	13.85
Subtotal	**$61.33**
	1.00

CHARGED
Personal ···· 1055 **$62.33**

06:34am

07:51am

uberX	43.16	01:16:56

TO 7 #3

LIAISON CAPITOL HILL DC

(b)(6)
425 Sutter Street
San Francisco CA 94104
US

Arrival	08-24-15
Departure	09-03-15
Room No.	0932
Folio No.	
Cashier	54
Page No.	1 of 2

INFORMATION INVOICE

Date	Description	[redacted]
08-24-15	Rm Charge -Trns - Retail - BAR	152.00
08-24-15	DC Occ Tax 14.5%	22.04
08-25-15	Rm Charge -Trns - Retail - BAR	160.00
08-25-15	DC Occ Tax 14.5%	23.20
08-26-15	Rm Charge -Trns - Retail - BAR	160.00
08-26-15	DC Occ Tax 14.5%	23.20
08-27-15	Rm Charge -Trns - Retail - BAR	152.00
08-27-15	DC Occ Tax 14.5%	22.04
08-28-15	Rm Charge -Trns - Retail - BAR	[redacted]
08-28-15	DC Occ Tax 14.5%	[redacted]
08-29-15	Rm Charge -Trns - Retail - BAR	[redacted]
08-29-15	DC Occ Tax 14.5%	[redacted]
08-30-15	Rm Charge -Trns - Retail - BAR	[redacted]
08-30-15	DC Occ Tax 14.5%	[redacted]
08-31-15	Rm Charge -Trns - Retail - BAR	[redacted]
08-31-15	DC Occ Tax 14.5%	[redacted]
09-01-15	Guest Laundry/Valet Service	[redacted]
09-01-15	DC Tax Over 3.00	[redacted]
09-01-15	Rm Charge	[redacted]
09-01-15	[redacted]	[redacted]
09-02-15	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

TO 7#4a

Subject: RE: Request for Travel Authorization (b)(6) SEA PM to Washington DC in support of PACOM regional baseline analysis

Date: Thursday, August 20, 2015 at 11:34:22 AM Central Daylight Time

From: (b)(6)

To: (b)(6)

This trip is approved. Thanks.

Cheers,

(b)(6)

-----Original Message-----

From: (b)(6)

Sent: Wednesday, August 19, 2015 10:59 PM

To: (b)(6)

Cc:

baseline analysis

(b)(6)

I hope this email finds you well. Please find attached a request to authorize my travel to Washington DC from 23 August – 2 September in support of completing the PACOM regional landscape analysis. This travel will be executed under TD 007, and will support the following:

Facilitation and completion of the internal review, QAQC, and draft version of the PACOM regional landscape analysis, which will be presented and submitted to CBEP regional leadership on 2 September. My travel to DC will facilitate coordination with SME's, and project personnel, finalizing the draft submission, and supporting review, and editing of the compiled open-source research. This will include, review and completion of QAQC'd materials, as well as completing additional QAQC requirements to evaluate level of confidence in gathered data, weighting and quantifying data and materials, where appropriate, and completion of the risk / gap analysis. In addition, travel is requested to attend the bi-weekly meeting with regional leads in support of submitting the draft deliverables, presenting the analysis to date, providing status updates, and continued discussion on the way forward.

If you have any questions, or require further information, please let me know.

Thank you so much (b)(6)

(b)(6)

TD 7 #4b

DELTA

Washington-Reagan National, DC to New Orleans, LA

PASSENGER INFORMATION

(b)(6)
SkyMiles#: 2652880184

Confirmation Number: H34ZM5
Ticket Number: 0062319505605

FLIGHT INFORMATION

Date and Flight	Status	Class	Meals/Other	Seat/Cabin
Thu 03Sep2015 | DL 1139 | DCA ▶ ATL	OPEN	U		25C
Thu 03Sep2015 | DL 754 | ATL ▶ MSY	OPEN	U		32C

DETAILED CHARGES

Air Transportation Charges	
Base Fare:	$152.56 USD
Taxes, Fees and Charges	
United States - September 11th Security Fee(Passenger Civil Aviation Security Service Fee) (AY)	$5.60 USD
United States - Transportation Tax (US)	$11.44 USD
United States - Passenger Facility Charge (XF)	$9.00 USD
United States - Flight Segment Tax (ZP)	$8.00 USD
Total Price:	**$186.60 USD**

Paid With American Express Ending 1055

KEY OF TERMS

- Arrival date different than departure date
** - Check-in required
***- Multiple meals
*S$ - Multiple seats
AR - Arrives
B - Breakfast
C - Bagels / Beverages
D - Dinner
F - Food available for purchase
L - Lunch
LV - Departs
M - Movie
R - Refreshments, complimentary
S - Snack
T - Cold meal
V - Snacks for sale

Check your flight information online at delta.com or call the Delta Flightline at 800.325.1999.
Baggage and check-in requirements vary by airport and airline, so please check with the operating carrier on your ticket.
Please review Delta's check-in requirements and baggage guidelines for details.
You must be checked in and at the gate at least 15 minutes before your scheduled departure time for travel inside the United States.
You must be checked in and at the gate at least 45 minutes before your scheduled departure time for international travel.
For tips on flying safely with laptops, cell phones, and other battery-powered devices, please visit http://SafeTravel.dot.gov
Do you have comments about service? Please email us to share them.

NON-REFUNDABLE / CHANGE FEE
When Using Certain Vouchers To Purchase Tickets, Remaining Credits May Not Be Refunded. Additional

TD 7 #5

VISA

CITY NATIONAL BANK
The way up

PO BOX 54830
LOS ANGELES CA 90054

MEMO STATEMENT

ACCOUNT NUMBER	XXXX XXXX XXXX 4551
CLOSING DATE	05-28-15
TOTAL ACTIVITY	$3,666.44

** MEMO STATEMENT ONLY **
DO NOT REMIT PAYMENT

(b)(6)

**N0000097

METABIOTA INC
TAKIA SMITH
1 SUTTER ST STE 600
SAN FRANCISCO CA 94104-4923

IMPORTANT INFORMATION

Please see reverse side for important information, including additional disclosures regarding the annual fee.

CARDHOLDER SUMMARY

(b)(6)

XXXX XXXX XXXX 4551	And Other Debits	+	Advances	-	Credits	=	Activity
Cardholder Total	$3,666.44		$0.00		$0.00		$3,666.44

FOR CUSTOMER SERVICE CALL
1-800-998-6206

INTERNATIONAL
800-773-71000

SEND INQUIRIES TO:
CREDIT CARD PROCESSING CENTER
DISPUTE RESOLUTION
PO BOX 84021
COLUMBUS GA 31908-4021

ACCOUNT NUMBER
XXXX-XXXX-XXXX-4551

CLOSING DATE	TOTAL CREDIT LINE
05/28/15	$8,000.00

DISPUTED AMOUNT	CASH LIMIT*
$0.00	$1,800.00

*This represents a portion of your Total Credit Line.

ACCOUNT SUMMARY

PURCHASES & OTHER CHARGES	$3,666.44
CASH ADVANCES	.00
CASH ADVANCE FEES	.00
CREDITS	.00
TOTAL ACTIVITY	$3,666.44

CARDHOLDER ACTIVITY

Post Date	Tran Date	Reference Number	Transaction Description	Amount
			********** NOTICE MEMO ITEMS LISTED BELOW **********	
04-30	04-30		ANNUAL FEE	M50.00
04-30	04-29	24692165119000534491032	PAY*PROPDAMAGEPROTECT 888-501-3025 CA	M59.00
04-30	04-29	24692165119000475356467	PAY*HOMEAWAY HA-8SSQPZ 877-228-3145 CA	M724.50
04-30	04-29	24692165119000475356483	PAY*HOMEAWAY HA-8SSQPZ 877-228-3145 CA	M724.50
05-20	05-19	74284475140080195120067	FOREIGN TRANSACTION FEE	M30.53
05-20	05-19	74284475140080195120075	FOREIGN TRANSACTION FEE	M30.53
05-20	05-19	74284475140080195120067	ASIA-PACIFIC BIOSA - (FOREIGN CURRENCY) $1,350.00 SGD 05/20 (RATE) 1.3265	M1,017.69
05-20	05-19	74284475140080195120075	ASIA-PACIFIC BIOSA - (FOREIGN CURRENCY) $1,350.00 SGD 05/20 (RATE) 1.3265	M1,017.69
05-25	05-19	74547065143020292638107	FOREIGN TRANSACTION FEE	M2.00
05-25	05-19	74547065143020292638107	SKYPE SUBSCRIPTION LUXEMBOURG	M10.00
			********** TOTAL AMOUNT OF MEMO ITEM(S)	$3,666.44

TD 7#6

$61.06

$2,035.38

TD 7# 7a

Subject: WorldPay CARD transaction Confirmation

Date: Tuesday, May 19, 2015 at 2:42:58 PM Pacific Daylight Time

From: shopper@worldpay.com

To: (b)(6)

Transaction Confirmation

Please retain for your records

Thank you

Your transaction has been processed by WorldPay, on behalf of Asia-Pacific Biosafety Association.

Transaction details:

Transaction for the value of: S$1,350.00
Description: 10th Annual Biosafety Conference Registration
From: Asia-Pacific Biosafety Association
Merchant's cart ID: 1850
Authorisation Date/Time: 19/May/2015 21:42:57
WorldPay's transaction ID: 4027817633
This is not a tax receipt.

Enquiries

This confirmation only indicates that your transaction has been processed successfully. It does not indicate that your order has been accepted. It is the responsibility of Asia-Pacific Biosafety Association to confirm that your order has been accepted, and to deliver any goods or services you have ordered.

If you have any questions about your order, please email Asia-Pacific Biosafety Association at: secretariat@a-pba.org, with the transaction details listed above.

Thank you for shopping with Asia-Pacific Biosafety Association.

When you submit your transaction for processing by WorldPay you confirm your acceptance of WorldPay's shopper privacy policy, a copy of which can be viewed at:
http://www.worldpay.com/shopper/privacy/

To find out more about how your transaction was processed, visit WorldPay's Frequently Asked Questions at:
http://www.worldpay.com/shopper/fags/
For further information about Verified By Visa authentication and details on how you can enrol, please click the logo.

TD 7 #76

Subject: WorldPay CARD transaction Confirmation

Date: Tuesday, May 19, 2015 at 2:46:55 PM Pacific Daylight Time

From: shopper@worldpay.com

To: (b)(6)

Transaction Confirmation

Please retain for your records

Thank you

Your transaction has been processed by WorldPay, on behalf of Asia-Pacific Biosafety Association.

Transaction details:

Transaction for the value of: S$1,350.00
Description: 10th Annual Biosafety Conference Registration
From: Asia-Pacific Biosafety Association
Merchant's cart ID: 1851
Authorisation Date/Time: 19/May/2015 21:46:53
WorldPay's transaction ID: 4027818969
This is not a tax receipt.

Enquiries

This confirmation only indicates that your transaction has been processed successfully. It does not indicate that your order has been accepted. It is the responsibility of Asia-Pacific Biosafety Association to confirm that your order has been accepted, and to deliver any goods or services you have ordered.

If you have any questions about your order, please email Asia-Pacific Biosafety Association at: secretariat@a-pba.org, with the transaction details listed above.

Thank you for shopping with Asia-Pacific Biosafety Association.

When you submit your transaction for processing by WorldPay you confirm your acceptance of WorldPay's shopper privacy policy, a copy of which can be viewed at:
http://www.worldpay.com/shopper/privacy/

To find out more about how your transaction was processed, visit WorldPay's Frequently Asked Questions at:
http://www.worldpay.com/shopper/faqs/
For further information about Verified By Visa authentication and details on how you can enrol, please click the logo.

TD 7#7C

A-PBA Secretariat

From: (b)(6)
Sent: Friday, 29 May 2015 3:11 AM
To: secretariat@a-pba.org
Cc: (b)(6)
Subject: Request for refund of conference registration fees

Dear Sirs,

I hope this email finds you well.

I would like to request your assistance in getting the refund for the registration of three (3) persons at the APBA conference due to force major conditions and cancellation of their travel:

Merchant's Reference #1: 1851 PAID
WorldPay Transaction ID: 4027 818969
Amount: S$1,350 ✓
Name: (b)(6)

Merchant's Reference #1: 1850 PAID
WorldPay Transaction ID: 4027 817633
Amount: S$1,350 ✓
Name: ~~Alexandria Vann~~ MS GOLLOBY CAROLE

Merchant's Reference #1: 1849 PAID
WorldPay Transaction ID: 4027 808428
Amount: S$1,350 ✓
Name: Jeff Engle JEFFREY ENGLE

I would appreciate if you could provide me with any information on the refund and the expected date of the funds return and/or any other ways we can work this issue out,

Thank you in advance and looking forward to hearing from you!

Kind regards,
(b)(6)

No virus found in this message.
Checked by AVG - www.avg.com
Version: 2014.0.4800 / Virus Database: 4311/9887 - Release Date: 05/28/15

TD 7 # 7d

(b)(6)

Need your advise.

Best regards,
Eileen
Secretariat of Asia-Pacific Biosafety Association
c/o Temasek Life Sciences Laboratory
1 Research Link
National University of Singapore
Singapore 117604
Tel (b)(6)

From: A-PBA Secretariat [mailto:secretariat@a-pba.org]
Sent: Friday, 5 June 2015 3:12 PM
To: (b)(6)
Subject: 1849,1850,1851 cancel registration

Dear (b)(6)

Your email for cancellation was received on the 29-May-2015, therefore we allow you to cancel registration 1851, 1850 and 1849 with us, however, an administrative charge of S$100 will be imposed on each cancellation. (please refer to our website on the details of our cancellation policy:http://www.a-pba.org/conference/registration.aspx)

We will do a telegraphic transfer to refund the money (amount to be refunded as per calculation stated below), therefore **please let us have the bank details (including the swift code).**
Please note that ALL bank charges of each telegraphic transfers (for the refund) will be borne by the recipient.

Cancellation Policy

All cancellation must be made in writing to the Conference Secretariat. Cancellations received on or before 1 June 2015 will be refunded in full less an administrative charge of SGD 100.00. No refund will be made for cancellation received after 1 June 2015.

ID 1851 :

Conference Registration fee	1,350.00
Less: Worldpay merchant chrg	(53.33)
Less: Admin charge	(100.00)
Amount to be refunded >	1,196.67 SGD = USD 845.56

ID 1850 :

Conference Registration fee	1,350.00
Less: Worldpay merchant chrg	(53.33)
Less: Admin charge	(100.00)
Amount to be refunded >	1,196.67 SGD = USD 845.56

Refund for 2pax = $1691.1
TD 7#8a

ID 1849 :

Conference Registration fee	1,350.00
Less: Worldpay merchant chrg	(53.33)
Less: Admin charge	(100.00)
Amount to be refunded >	1,196.67

Best regards,

(b)(6)

Secretariat of Asia-Pacific Biosafety Association
c/o Temasek Life Sciences Laboratory
1 Research Link
National University of Singapore
Singapore 117604
Tel: (65) 6872 7059

From: (b)(6)
Sent: Tuesday, 2 June 2015 10:03 PM
To: A-PBA Secretariat
Cc: (b)(6)
Subject: Re: Request for refund of conference registration fees : Noted 1849,1850,1851 cancel registeration

Dear (b)(6)

Thank you very much for your email, I am looking forward to hearing back on the refund from you.

Kind regards,

(b)(6)
Conference and Travel Coordinator
(b)(6)

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

From: A-PBA Secretariat <secretariat@a-pba.org>
Date: Monday, June 1, 2015 at 11:05 PM
To: (b)(6)
Subject: RE: Request for refund of conference registration fees : Noted 1849,1850,1851 cancel registeration

Dear (b)(6)

Noted your email. I will check and get back to you regarding your refund asap. Thank you for your patience.

TD 7#86

WellsOne® Account

(b)(6)

WELLS FARGO

METABIOTA, INC.
425 CALIFORNIA ST STE 200
SAN FRANCISCO CA 94104-2104

Questions?

Call your Customer Service Officer or Client Services
1-800-AT WELLS (1-800-289-3557)
5:00 AM TO 6:00 PM Pacific Time Monday - Friday

Online: *wellsfargo.com*

Write: Wells Fargo Bank, N.A. (182)
PO Box 63020
San Francisco, CA 94163

Account summary

WellsOne® Account

Account number	*Beginning balance*	*Total credits*	*Total debits*	*Ending balance*
(b)(4); (b)(6)				

Credits

Electronic deposits/bank credits

Effective date	*Posted date*	*Amount*	*Transaction detail*
(b)(4); (b)(6)			
07/20		2,536.70	// Sgd3560.01 4088044 0016Ot3459176 Asia-Pacific Biosafety Association Refund: 1849 1850 1851
(b)(6)			
(b)(6)			**al electronic deposits/bank credits**
			al credits

Sheet Seq = 0084099
Sheet 00001 of 00005

TD 7#8c

Traveler 1: (b)(6)

Frequent Flyer: 51512244510
Seats: 10C

WHAT IT COSTS

Total for 1 traveler(s) in US Dollars

Base Fare (x1):	**$701.40**
Federal Tax	$52.60
Domestic Taxes and Fees:	
Passenger Facility Tax	$4.50
Security Fee	$5.60
Segment Fee	$4.00
U.S. Customs User Fee	$0.00
Travel Insurance Fee	$0.00
Fare	**$768.10**
*Special Service Requests	$0.00
TOTAL	**$768.10**



AVIS

Earn 3 points per $1 spent and take up to 35% off



Budget

Earn 3 points per $1 spent and take up to 30% off

WHAT YOU NEED TO KNOW

Baggage Information

Guests are welcome to bring aboard one personal item and one carry-on item that does not exceed 30 pounds. All checked bags may have a maximum size of is 62 linear inches, which is calculated by adding the length plus the width plus the height.

Main Cabin Guests are invited to check up to ten (10) bags up to 50 pounds for a fee of $25.

TD 7 #9a

Subject: Re: Request for review and approval - AEP Travel - APBA Conference &mtgs - Manila and Cebu, Philippines, 19-27 June 2015

Date: Wednesday, May 27, 2015 at 3:46:29 AM Pacific Daylight Time

From: Newman, Carl I CIV DTRA J3-7 (US)

To: (b)(6) (b)(6)

Approved

Cheers,
Carl

Sent from my iPhone

On May 26, 2015, at 10:20 PM (b)(6) wrote:

Dear (b)(6)

It was great to see you last week and I hope you enjoyed your weekend. As mentioned at the T&M Kickoff, please find attached the revised travel request to the Philippines, extending (b)(6) stay from 27 June through 02 July to accompany (b)(6) at partner meetings in Manila facilitating scientific engagement and research activities. My travel on this request remains the same and I will depart as planned on 27 June. If you have any questions, please contact me at anytime.

Thank you very much. We look forward to your approval of this request.

V/r, (b)(6)

(b)(6)
Southeast Asia Program Manager – AEP
Metabiota Inc.
+1 415-601-0230

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

From: <Newman>, "Carl I CIV DTRA J3-7 (US)" (b)(6)
Date: Tuesday, May 12, 2015 at 6:11 AM
To: (b)(6)
Cc: [redacted]

Subject: RE: Request for review and approval - AEP Travel - APBA Conference &mtgs - Manila and Cebu, Philippines, 19-27 June 2015

Approved.

TD 7 #96

From: (b)(6)
To:
Cc:

Subject: TD-007RevA
Date: Thursday, November 19, 2015 1:30:41 PM
Attachments: CTR-CBEP_AEP_TD-007RevA_PACOM_Regional Landscape Analysis_19Nov2015.pdf

Hi (b)(6)

Please find attached RevA for TD-007. As discussed previously, this Rev is extending the PoP to 31 Dec 2015 to allow additional time for completion and government acceptance of the PACOM Landscape Analysis. Please continue to coordinate directly with the Technical Points (b)(6) for any technical matters relating to this TD. No changes to the already approved proposal are required at this time.

Cheers,
Carl

(b)(6)
Deputy Chief Scientist
Cooperative Biological Engagement Program
Cooperative Threat Reduction
Defense Threat Reduction Agency
(b)(6)

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	007	A

4. TD TITLE

DTRA/CBEP Implementation of a Regional Landscape Analysis in the Southeast Asia Region

5. TOTAL TD ESTIMATE:

HOURS: _____ DOLLARS: $ **$850,489**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHONE: 703-767-7789 EMAIL: (b)(6)

7. CONTRACTOR POC

NAME: (b)(6)

PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends to Period of Performance (PoP) end date for TD-007 from 31 October 2015 to 31 December 2015. This PoP extension will provide additional time for completion and government acceptance of the PACOM Landscape Analysis. No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	802,669	5/15/2015	12/31/2015
1003	MATERIALS	$	27,711	5/15/2015	12/31/2015
1004	ODCs	$	8,452	5/15/2015	12/31/2015
1005	TRAVEL	$	11,657	5/15/2015	12/31/2015
	TOTAL	**$**	**850,489**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$850,489**

12a. CURRENT PERIOD OF PERFORMANCE

15 MAY 2015 – 31 OCT 2015

12b. TD REV PERIOD OF PERFORMANCE

15 MAY 2015 – 31 DEC 2015

13. CONTRACTOR SIGNATURE AND DATE

Signature:

Date: _____

14. REGION

15. TECHNICAL POINTS OF CONTACT

(i.e. Country Manager/Regional Lead/Science Manager A&AS)

PACOM Regional Lead, LTC Kim Leba, (703) 767-5925, (b)(6)

PACOM Regional Science Manager (b)(6)

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X (b)(6)

(b)(6)

COR / J3CTB Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

TD 009 NHLS BS&S Training - South Africa

Objectives

Reduce the risk of laboratory exposures of potentially dangerous pathogens through increased BS&S capabilities of South Africa's National Health Laboratory Service (NHLS) to, ultimately, mitigate risk associated with handling potential hazards and protect individuals operating in potentially hazardous environments.

Period of Performance: 05/16/2015-05/15/2016

CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$205,037.00	$40,107.77	$164,929.23
1003	$111,454.09		$111,454.09
1004	$4,092.47		$4,092.47
1005	$15,024.00		$15,024.00
TOTAL	$335,607.56	$40,107.77	$295,499.79

CLIN 1002 – Labor

Labor costs for this project include PM and PC activities, such as maintenance of the objective 1 activities from the base year, coordinating the efforts of the NHLS team, proposal development, initiation of procurements, and subcontract modification development to incorporate Objectives 2 and 3. Costs also include accruals of labor projected for NHLS staff for this time period.

Program Manager: 84.5 Hours

Metabiota's (b)(6) performed as Program Managers while Metabiota identified ideal candidates for the position. During this time, they participated in proposal development, including the assisting with the development of the overall project budget and the drafting of text for both the technical and management approaches. (b)(6) over as Program Manager in June and finalized proposal development. He also oversaw development of project plan. Dennis provided oversight for subcontract modification and coordination of the project activities, including communications with DTRA/A&AS and the subcontractor team in South Africa.

NHLS Program Manager (b)(6) led coordination with Metabiota and oversaw efforts of South African team to meet project goals. He also secured quotes for procurement of materials and equipment from South African vendors for comparison with US vendors. Leading coordination of approvals of paperwork through NHLS management.

Trainer 1: 59 Hours

(b)(6) led the development of the project plan and led subcontract modification to include drafting of SOW, project charter, and project schedule. She provided expertise in contract development to assist NHLS performers in understanding DOD requirements. She drove coordination of project activities, including communications with the subcontractor team in South Africa and the initiation of procurement activities.

Research and Data Analyst: 18.5 Hours

(b)(6) participated in proposal development to include the drafting of text for both the technical and management approaches.

(b)(6) of NHLS Participated in subcontract modification discussions. He assisted in securing quotes for procurement of materials and equipment from South African vendors and coordinating approvals of paperwork through NHLS management.

Subject Matter Expert 3: 74 Hours

(b)(6) provided historical knowledge and data to the new program manager and assisted with his transition to include assisting with budget development and the drafting of text for both the technical and management approaches. She coordination with NHLS team on continuation of Objective 1 from the base year. Secured quotes for procurement of materials and equipment from US vendors.

CLIN 1003 – Materials and Supplies

No material costs have been incurred.

CLIN 1004 – ODCs

DBA insurance is being acquired for all Metabiota personnel or subcontractors working outside of the United States but this cost has not been finalized or invoiced at this time.

CLIN 1005 – Travel

No travel costs have been incurred at this time.

Metabiota

Invoice:	INV-0000000239	**Invoice End Date**	7/31/15
Invoice Amount	40,107.77	**Invoice Due Date**	2015-10-08

Remit To:
Metabiota,Inc.
1 Sutter Street, Suite 600
San Francisco
CA
94104

Bill To:
Defense Threat Reduction Agency
8725 John J. Kingman Rd.
Ft. Belvoir
VA
22060-6201

TD-009 NHLS

Transaction Project ID	PLC Cd	PLC Desc	Name	Bill Hours	Billing Rate	Amount To Bill	Cumulative Hours	Cumulative Amount

(b)(4); (b)(6)

TD 009 NHLS BS&S Training - South Africa

Objectives

Reduce the risk of laboratory exposures of potentially dangerous pathogens through increased BS&S capabilities of South Africa's National Health Laboratory Service (NHLS) to, ultimately, mitigate risk associated with handling potential hazards and protect individuals operating in potentially hazardous environments.

Period of Performance: 05/16/2015-05/15/2016

CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$205,037.00	$69,263.79	$135,773.21
1003	$111,454.09	$15,874.54	$95,579.55
1004	$4,092.47		$4,092.47
1005	$15,024.00		$15,024.00
TOTAL	$335,607.56	$85,138.33	$250,469.23

CLIN 1002 – Labor

Program Manager: 55.25 Hours

(b)(6) provided oversight to development of the fit testing training materials for fit testing. The identified the best vendors and initiated purchase and shipping of the PortaCount Pro fit testing equipment and iPad Air tablets. They also oversaw preparation of the Fit test Scale up and Master level training plans for finalization.

Trainer 1: 102.5 Hours

(b)(6) provided coordination of bi-weekly stakeholder meetings assisting to ensure deliverables are being completed on time and as scheduled. She reviewed reports and invoices submitted by the performers and provided oversight by coordinating and facilitating meetings with the performers. She also prepared the CLS forms and Training Event Plans for SHE officer master level training. Michelle Morgan participated in review and submission of final training materials, and coordination of NHLS trainees in preparation for the fit testing training event.

Research and Data Analyst: 91 Hours

(b)(6) prepared comprehensive fit-testing training materials based on the manufacturer's protocols and other open-source reference information. She also developed a training agenda. Research and Data Analysts at NHLS utilized hours to participate in bi-weekly meetings and prepare draft reports and cost estimates to ensure the program remains on target. In addition, they provided coordination for the fit testing and videography components.

Subject Matter Expert 1: 12 hours

(b)(6) utilized hours to review training materials for final approval.

CLIN 1003 – Materials and Supplies

Costs invoiced are inclusive of the iPad Air tablets.

CLIN 1004 – ODCs
No costs invoiced

CLIN 1005 – Travel
No costs invoiced.

Metabiota

TD 009 NHLS

CLIN 1002 LABOR

NAME	LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED
[redacted] (b)(4); (b)(6)						
			260.75	$ 29,156.03	506.75	$ 69,263.79

CLIN 1003 Materials

Transaction Description	CURRENT INVOICE	CUMULATIVE INVOICED
25 iPad Air 2 64GB Silver	$ 15,079.83	
	$ 15,079.83	$ 15,079.83
	5.27% $ 794.71	$ 794.71

	$	15,874.54	$ 15,874.54
TOTAL INVOICE	**$**	**45,030.57**	**$ 85,138.33**

Apple Retail for Business

Pro forma Invoice:
213746715 - 2202638356

Date:
Tuesday, October 27, 2015

Valid until:
Sunday, November 22, 2015

Prepared for:
Alexandra Tammariel
Metabiota
425 California Street
San Francisco, California 94104
4157934156
atammariel@metabiota.com
Customer ID: 1308 2673

Ship to:
(b)(6)
Metabiota
1 N MAIN ST
CHAMBERSBURG, Pennsylvania 17201-1810
4157934156

Prepared by:
(b)(6)
Apple Retail for Business
301 834 0883
bethesdabusiness@apple

Product / Description	Qty	Price	Discount	Total
iPad Air 2 Wi-Fi 64GB - Silver MGKM2 A		$599.00	$748.75	**$14,226.25**

Subtotal	$14,226.25
Estimated Tax	$853.58
Estimated Total (USD)	**$15,079.83**

Additional Notes

Reference: Metabiota PO 2015-18 PO

Delivery Expectations

Your product(s) will ship as they become available. All shipments subject to unexpected carrier delays.

Terms and Conditions

This is a quote invoice, not a receipt of purchase. The applicable sales tax and any additional surcharges, such as recycling fees, are subject to verification and will be reflected on your final invoice.

Product availability and pricing are subject to change without notification. The configurations and pricing noted in this quote are generally valid for up to 30 days, and are specifically intended for purchase by the entity indicated above. Quotes that reflect promotional or special sales event discounts are valid only for the duration of the promotion or special sales event.

Consideration for Business pricing is made based on the type of product, the quantity and the availability of the products ordered. For further information regarding this proposal, please contact your Apple Business Team. Full full sales and refund terms and conditions can be found at http://www.apple.com/legal/sales/support.

TD 9 #1
Materials

TD 009 NHLS BS&S Training - South Africa

Objectives
Reduce the risk of laboratory exposures of potentially dangerous pathogens through increased BS&S capabilities of South Africa's National Health Laboratory Service (NHLS) to, ultimately, mitigate risk associated with handling potential hazards and protect individuals operating in potentially hazardous environments.

Period of Performance: 05/16/2015-05/15/2016

CLIN 1002 – Labor

Program Manager: 35.5 Hours
(b)(6) provided administrative and technical oversight to the project as a whole, and led communications with NHLS and DTRA on the efforts. He also led communication with CLS on both shipping issues and venue selection/training participant logistics. (b)(6) provided administrative oversight of efforts by the South African team at NHLS and provided reporting to Metabiota on those efforts.

Trainer 1: 37 Hours
(b)(6) provided coordination of bi-weekly stakeholder meetings to ensure tasks and deliverables are completed on time. She reviewed reports and draft invoices and

Research and Data Analyst: 20 Hours
Research and Data Analysts at NHLS participated in bi-weekly meetings and prepared draft reports and invoices. (b)(6) assisted with coordination leading up to the postponed fit testing training, refined the training agenda and managed receipt of the PortaCount fit-testing equipment.

Subject Matter Expert 1: 12 hours
(b)(6) held conversations with stakeholders at laboratories and facilities within the NHLS system to understand needs and further derive requirements for the OHASIS module. He also participated in coordination meetings leading up to the postponed fit testing training.

CLIN 1003 – Materials and Supplies
$82,345.97 was paid to TSI, Inc., for 5 PortaCount Pro fit testers and corresponding 3-year calibration plans.

CLIN 1004 - Other Direct Costs
No other direct costs are being invoiced for during this period.

CLIN 1005 – Travel
No travel related costs are being invoiced for during this period.

Metabiota

TD 009 NHLS

CLIN 1002 LABOR

NAME	LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED
(b)(4); (b)(6)						

500 Cardigan Road
Shoreview, MN 55126
USA
EIN 41-0843524
DUNS 00-625-3124

Tel: (651)483-0900
Fax:(651)481-1220
Web:www.TSI.com
Email:answers@TSI.com

Proforma Invoice

Manufacturer of TSI®, Alnor®, Airflow™, and ChemLogix™ branded products

Remit-To
TSI Incorporated
SDS 12-0764 P.O. BOX 86
MINNEAPOLIS, MN 55486-0764

Bill-To-Party
Metabiota
1 Sutter St
Ste 600
SAN FRANCISCO, CA 94104-4923
USA

Ship-To-Party
DTRA CLS Warhouse - SAIC
1051 Sheffler Drive, Ste C
Chambersburg PA 17201
USA

Remit-To If payment by Wire:
US Bank National Association
225 S. Sixth Street
Minneapolis, MN 55402
A.B.A. No. 091000022
SWIFT No. USBKUS44IMT
Account No. 1-502-5005-9915

Invoice Number	90759161
Invoice Date	11/09/2015
Reference Order	567735/ 10/26/2015
PO No.	2015-17-PO
PO Date	10/23/2015
Customer No.	5343523
Currency	USD
Term of Payment	PAY IN ADVANCE

Item	Material/Description	Quantity	Unit Price	Value
1	8038 PortaCount Pro+ Respirator Fit Tester **Schedule B 9027.50.9000** Country of Origin US Order 567735 from 10/26/2015	5 EA	12,810.00	64,050.00
2	CLC3-8038 Pre-Paid Cal Contract; 3-Yr, 8038 **Schedule B 0000.00.0000** Country of Origin US Order 567735 from 10/26/2015	5 EA	2,630.00	13,150.00

Net Total	77,200.00
Freight	484.87
Tax	4,661.10
Invoice Amount	82,345.97

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TD 009 NHLS BS&S Training - South Africa

Objectives

Reduce the risk of laboratory exposures of potentially dangerous pathogens through increased BS&S capabilities of South Africa's National Health Laboratory Service (NHLS) to, ultimately, mitigate risk associated with handling potential hazards and protect individuals operating in potentially hazardous environments.

Period of Performance: 05/16/2015-05/15/2016

CLIN 1002 – Labor

Program Manager:

(b)(6) provided administrative and technical oversight to the project as a whole, and led communications with NHLS and DTRA on the efforts. He also led communication with CLS on both shipping issues and venue selection/training participant logistics. Metabiota is reverting erroneously accrued hours in the Program Manager labor category for (b)(6) they should have instead been accrued in the Grants Manager labor category. The value of the accrued hours in this labor category is less than those being invoiced in the Program Manager labor category.

Grants Manager:

(b)(6) provided administrative oversight of efforts by the South African team at NHLS and provided reporting to Metabiota on those efforts.

Trainer 1:

(b)(6) provided coordination of stakeholder meetings to ensure tasks and deliverables are completed on time. She reviewed reports and draft invoices and drafted an amended CLS logistics support request document for the fit-testing training. (b)(6) provided support to David Jones on oversight of the fit-testing effort and its rescheduling.

Research and Data Analyst:

Research and Data Analysts at NHLS participated in bi-weekly meetings and prepared draft reports and invoices (b)(6) assisted with coordination leading up to the postponed fit testing training, refined the training agenda and managed receipt of the PortaCount fit-testing equipment (b)(6) and (b)(6) provided financial management support to the NHLS team.

Subject Matter Expert 1:

No SME 1 hours were used in December.

CLIN 1003 – Materials and Supplies

$32.06 was paid to Lasec for 5 liters of 99.8% pure isopropyl alcohol for use in the PortaCount fit testers.

CLIN 1004 - Other Direct Costs

No other direct costs are being invoiced for during this period.

CLIN 1005 – Travel

No travel related costs are being invoiced for during this period.

Metabiota						
TD 009 NIILS						
CLIN 1002 LABOR						
NAME	LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

(b)(4); (b)(6)

Lasec

Attention: (b)(6)
Company: METABIOTA INC.
Tel: +1 415-398-4712
Fax: +1 415-398-4716

Doc. Type	Proforma Invoice
Date	15 December 2015
Doc. Number	1512-100028001
Page	1 of 2

Invoice To: METABIOTA INC.

415-3984712
425 CALIFORNIA STREET, SUITE 200
SAN FRANCISCO
USA

Deliver To: METABIOTA INC.
(b)(6)
8757 Georgia Ave Suite 800, 8757 Georgia Ave Suite 800
Silver Spring, MD 20910, Silver Spring, MD 20910

Consignee
(b)(6)
8757 Georgia Ave , Suite 800, S lver Spring, MD 20910
Maryland. USA

Account Number	Customer Order Number	Customer VAT Number	
150327		N/A	

Stock Code	Description	Qty	Unit Of Measure	Unit Price US Dollar	Total Price US Dollar
CRDCRCP932X	ISOPROPYL ALCOHOL (ISOPROPANOL) AR 2 5L	2	EA	14.06	28.12
	Current y we have no stock available. Lead time of 6 - 8 weeks can be expected.				
				SUB Total	$28.12
				VAT 14 %	$3.94
				Total incl. VAT	$32 06

Please Note:

FCA, Johannesburg, Incoterms 2010.

Please see attached for the Special Terms and Conditions, and a link to Lasec's Standard Terms and Conditions.

Metabiota's Technical and Cost Proposal

"Biosafety and Biosecurity Training with South Africa's National Health Laboratory Services."

Technical Direction Number: TD-009
Contract Number: HDTRA1-14-C-0104
CAGE Code: 56SP4
DUNS number: 828131156

Small US Business
Metabiota, Inc.



One Sutter Street, Suite 600 San Francisco, CA 94104

Metabiota Points of Contact	**DTRA CBEP Points of Contact**
(b)(6)	

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Executive Summary

In response to Defense Threat Reduction Agency's Cooperative Biological Engagement Program (DTRA CBEP) regional leadership tasking via the Academic Engagement Partnership (AEP) contract vehicle, and through collaboration with the South Africa's National Health Laboratory Services' (NHLS), Metabiota, Inc. seeks to support the DTRA CBEP mission through the conduction of country-specific, high-value training programs to increase the effectiveness of NHLS biosafety and biosecurity (BS&S) activities. These proposed efforts will focus on delivering tailored support for increased BS&S awareness, equipment assurance of proper functionality, and ensured laboratory staff protection.

Through this activity, Metabiota will engage with NHLS in order to direct technical support in the development and implementation of BS&S initiatives. Established through legislation in 2001 to connect public health system laboratories, NHLS is the largest diagnostic pathology service in South Africa. Laboratory and related public health services are provided by the NHLS to over 80% of the population through a national network of laboratories in all nine provinces, employing over 6,700 people. NHLS activities comprise diagnostic laboratory services, research, teaching and training, and production of sera for snake antivenin, reagents, and media. Its specialized divisions include the National Institute for Communicable Diseases, National Institute for Occupational Health, National Cancer Registry and Antivenin Unit.

This document outlines the approach that Metabiota will employ to accomplish the requirement. In short, Metabiota intends to:

1. Facilitate the completion and dissemination of a standardized BS&S training video materials for laboratory personnel throughout the NHLS network laboratories;
2. Expand the in-country Occupational Health and Safety Information System (OHASIS) capabilities by supporting the development of a new module for increased quality assurance and quality control procedures for monitoring laboratory equipment certifications and maintenance; and
3. Facilitate the development of a Fit Testing respiratory protection-training program to be disseminated via Safety, Health, and Education (SHE) Officers.

Project Overview

Background

Emerging infectious diseases (EIDs) are a challenge for medical and public health infrastructures and pose a significant threat to security and stability across the globe. To manage these threats, DTRA CBEP aims to reduce potential impacts of biological threats by enhancing biological safety and security, awareness of biological risks, and knowledge related to biological pathogens globally.

To do so, DTRA CBEP works collaboratively with partner nations, other USG agencies, and the

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international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health; promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner. In AFRICOM, specifically, DTRA CBEP seeks to secure and consolidate select agents and enhancing BS&S standards in order to strengthen the region's ability to detect, diagnose, survey, and report emerging and re-emerging diseases of international security concern.

In response to DTRA CBEP AFRICOM regional leadership tasking, and through collaboration with the NHLS, Metabiota seeks to support the DTRA CBEP mission through the conduction of country-specific, high-value training programs to increase the effectiveness of NHLS' BS&S activities. These proposed efforts will focus on delivering tailored support for increased BS&S awareness, equipment assurance of proper functionality, and ensured laboratory staff protection.

As comprehensive employee BS&S training programs can mitigate potential EID risks by aiming to prevent exposures to healthcare workers and laboratory personnel, this collaborative training will support the DTRA CBEP mission of improving global health security with the inclusion specialized capacity-building efforts.

Metabiota's field experience and decades of expertise allows us to be well positioned to support the implementation of all of the associated activities, as well as scientific engagement in AFRICOM's area of responsibility.

Goals and Objectives

This activity aims to provide NHLS with continuous quality assurance oversight and to mitigate potential risks to healthcare workers and laboratory personnel exposed to EIDs by conducting training to improve biological safety in NHLS's laboratory network thereby managing the risk of accidental or intentional release of EID causative agents. The delivery of these requirements will cultivate continued learning throughout the NHLS network of laboratories and further expand in-country monitoring and quality improvement activities.

To achieve this purpose, Metabiota and their collaborative partners will:

1. Complete and distribute a standardized BS&S video training courses;
2. Expand in-country OHASIS capabilities by developing new IT modules allowing for comprehensive equipment maintenance requirement monitoring;
3. Develop and conduct a training-of-trainer (TOT) program for the conduction of Fit Testing Respiratory Protection Training Program to be disseminated via SHE Officers.

To accomplish these goals DTRA CBEP will engage Metabiota to administer the BS&S Training in South Africa in collaboration with NHLS.

Impact

Through the implementation of the BS&S training in South Africa facilitated by Metabiota, DTRA CBEP will be able to:

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- Develop and enhance EID BS&S systems and build regional capabilities;
- Ensure safe EID collection and handling practices supporting the implementation of international standards of BS&S;
- Provide quality assurance oversight to regional public healthcare system personnel;
- Support public health capacity building in the region and foster scientific research and collaboration through the development and implementation of basic research activities.

This activity will provide a measurable and achievable result in building scientific capacity in South Africa, contributing to the promotion of a global network of research collaborations, and the development of a sustainable infrastructure for advancing scientific research, including the early detection of emergent threats.

Training engagements are critical to capacity building efforts in host countries and supporting the early detection and response to emerging threats, thus safeguarding the world from infectious disease threats.

Risk Management

In order to maintain our course of action and guarantee trainings that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix found below. Identifying and acknowledging the risks associated with not implementing this training, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Cost						
In Country Travel Arrangements	Significant in-country travel is required for these projects, and our estimates may be under the true number	4	4	**Medium-High**	Consult often with NHLS and have them cost estimate with actual travel costs before arrangements have been booked.	Medium
Schedule						
Material Procurement	Various items will be purchased in the USA and shipped to NHLS in South Africa while some items will be purchased locally. There may be some confusion and delays over which items to ship and which to purchase locally in RSA.	4	3	Medium	Engage a local logistics organization to provide in-country support with rapid turn-around and solid track record in supporting USG operations. Consult with NHLS in enough time to establish USA versus SRA purchases to allow for enough time to procure items to keep the projects on schedule.	(b)(4); (b)(6)
Receiving Deliverables on Schedule from NHLS	NHLS is a large organization with a highly centralized authority structure that serves as a bottleneck for decision-making, thus the timely preparation and delivery of deliverables may be	4	4	(b)(4); (b)(6)	Maintain frequent communication and consultations with NHLS to ascertain partner progress in meeting completion of the deliverables and work to de-escalate decision-making needs.	Med

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				(b)(4); (b)(6)		
	affected.					
Performance						
Writing of SOPs for Fit Testing to coincide with delivery of Portacounters into RSA.	NHLS may not have developed SOPs for its Fit Testing Objective by the time Portacounters arrive in RSA from the USA.	4	3	**Med-High**	Coordinate NHLS development of Fit Testing SOPs with timeline of purchasing Portacounters and shipping them to RSA. Provide assistance to development of Fit Testing SOPs as needed.	(b)(4); (b)(6)

Implementation Plan

Introduction

Metabiota will employ its existing organizational leadership to interface, as needed, with the Regional Science Manager and Regional Program Manager to direct the operational and administrative support required ensuring implementation of the BS&S training. Our Program Manager will oversee the training programs with the support of a subject matter expert, travel coordinator, grants manager, trainers, and research and data analysts, to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Communications Protocols

To accomplish event implementation, Metabiota will maintain open lines of communication and will use a phased approach of engagement, maintaining project tracking and scheduled deliverables. This phased approach will be coordinated directly with the NHLS Program Manager, Trainer, Research and Data Analyst, and SME collaborators to ensure the event is implemented according to DTRA CBEP requirements, in the assigned timeframes, and supportive of the DTRA CBEP mission. In addition, Metabiota will maintain routine communication with DTRA CBEP to ensure they have full visibility on the training engagement and development activities, status and process of execution.

Technical Approach

Phases of Technical Approach

Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project phases and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. The following phases are required for this project:

Phase 1: Biosafety & Biosecurity Training Video Distribution
Phase 2: Monitoring of Equipment Maintenance Enhancement (OHASIS)
Phase 3: Respirator Fit Testing of Employees

Phase 1 – Biosafety & Biosecurity Training Video Distribution (1 July – 31 December)

Objective: Complete the development a professionally produced video and related materials or

a ToT program to standardize and introduce laboratory safety-related information.

Process: Metabiota, in coordination with DTRA CBEP and NHLS, is completing a professionally produced video and related materials (*e.g.*, standard operating procedures (SOPs)) for a ToT program to standardize and introduce laboratory safety-related information. In continued support of this effort, Metabiota and NHLS will procure the necessary equipment and consumable required for distributing these training videos to laboratory personnel, visitors, security personnel, and contract maintenance workers.

Under the direction of NHLS SHE Officers, laboratory personnel will be trained to oversee delivery of introductory video trainings and associated SOPs to personnel within their home-based facility. There are no labor or travel costs associated with dissemination of training materials. The only costs associated with the completion of this objective are associated with procurement of equipment and consumables required for distributing the completed videos. Training videos will be rolled out via Apple Air tablet computers to academic institutions and regional centers, whereas DVDs will be provided to more rural facilities within the network. Metabiota had not previously budgeted for procurement of these materials, as it was assumed that CLS would manage this activity. Moving forward, Metabiota will procure all tablets and DVD's for this objective and leverage the CLS Single Shipper mechanism to ensure materials are shipped to the Republic of South Africa in compliance with all export/import regulations.

Deliverables:

- Deliverable 1: Submission of training materials and post-action report for the conduction of laboratory personnel training to oversee the distribution and delivery of BS&S video trainings and associated SOPs to personnel.

Phase 2 – Monitoring of Equipment Maintenance Enhancement (OHASIS) (1 Oct 2015 – 30 April 2016)

Objective: Ensure all BS&S associated equipment is properly calibrated, functioning, and maintained.

Process: To manage potential risks due to human error and paper-based record keeping as well as provide increased oversight, Metabiota will develop a module for the enhancement of OHASIS, an online health monitoring system that is currently used by all facilities within the NHLS network to record and investigate incidents, record employee health, note vaccinations given, and document trainings completed. Metabiota will additionally coordinate with the NHLS to develop and distribute an online e-learning training and manual for the SHE Officers.

The enhancement module is intended to allow for laboratories to monitor the maintenance requirements of equipment so as to ensure proper functionality through the existing OHASIS program, thereby improving BS&S. Additionally, this module will provide reports on laboratory equipment including, biological safety cabinets, autoclaves, centrifuges, fume hoods, and other local exhaust ventilation systems.

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The enhancement module will be piloted in three laboratories over the course of four to five weeks, during which online training materials and manuals will be tested. Metabiota will communicate, troubleshoot, and share developments with the Canadian developers, in line with current agreements. NHLS will proceed to roll out OHASIS module training on its own schedule with no additional labor hours requested.

Deliverables:

- Deliverable 1: Rollout of enhanced equipment maintenance module for OHASIS
- Deliverable 2: Development and conduction online e-learning training and a training manual for SHE Officers

Phase 3 – Respirator Fit Testing of Employees (1 July 2015 – 30 April 2016))

Objective: Develop and initiate a Master Trainer ToT Fit Testing Program to ensure proper fit of PPE and optimize biosafety for all laboratory personnel. This program will include initial scale up and Master-level training of NHLS staff. As a result, the NHLS will have personnel capable of conducting internal ToT events, which will allow for them to reach the estimated 3,000 laboratory staff in need of Fit Testing.

Process: To manage risks associated with aerosol exposures in the laboratory setting, Metabiota will develop a Master Trainer ToT Fit Testing Program with the NHLS. This training will use specialized Fit Test equipment to identify the appropriate respirator for a given person. To enable the NHLS to reach the estimated 268 locations and 3,000 staff in need of Fit Testing, many of whom are in rural areas, Metabiota will develop Fit Test SOPs, map initial scale up plan, develop Trainer and Master Trainer selection criteria, and conduct initial Fit Test trainings for a select starting cohort of NHLS staff.

Deliverables:

- Deliverable 1: Submission of training scale-up plan, training materials, and post-action reports for the conduction of the Master Trainer ToT Fit Testing Program
- Deliverable 2: Submission of Trainer and Master Trainer cohort list, training timeline for scale-up completion for fit testing all 3,000 NHLS employees, and post-action reports.

Management Approach

Project Team Structure

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the Program Manager, Research and Data Analyst, Travel Coordinator and a team of Research Collaborators and Subject Matter Experts that will be tasked with specific assignments to support the development and implementation of the training based on their administrative and scientific expertise. This team of experts will ensure the overall project management and tasks associated with the training are met at every level using best practices and that only the highest level of scientific rigor and expertise is applied to this effort.

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Initiation

Prior to initiating any action, Metabiota and DTRA CBEP will secure a clear understanding of the objectives and mission of this undertaking, and make sure all stakeholders agree to it. Following authorization to proceed by DTRA CBEP, Metabiota will move into the planning and execution of the trainings and IT enhancement activities.

Execution

The core project management team will maintain oversight and implementation of the project at all times and will ensure timely execution of the training events and tracking objectives to ensure the project remains on schedule and within budget. The project will be managed according to the phased implementation plan and will be course-corrected as needed to ensure project goals are met. The following tools will be used to guarantee the project schedule will be maintained:

Project Administration:

1. Weekly team meetings and conference calls will be held to internally review the project achievements, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Coordinator and will include the PM, Research and Data Analysts, SMEs and AEP leadership, as needed, based on the requirements and stage of implementation.
2. Metabiota will conduct routine communication with DTRA CBEP regional leadership and in-country collaborators to provide routine status updates and ensure project implementation.

Project Reporting:

1. Weekly status reports will be provided by the PM to senior Metabiota leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course-correction as needed to ensure training goals are met.

Monitoring and Controlling

1. Routine risk assessment will be performed internally among the Metabiota project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with DTRA CBEP regional leadership to ensure the project remains on track and is implemented according to standard.
3. Routine oversight and coordination will be performed to ensure NHLS is performing in-country logistical requirements to ensure successful execution of the project phases. Monitoring will include both administrative and fiscal oversight.

Timeline

Phase	Q3 2015			Q4 2015			Q1 2016			Q2 2016		
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Phase 1: BS&S Training Video Distribution												

Phase 2: Monitoring of Equipment Maintenance Enhancement (OHASIS)												
Phase 3: Respirator Fit Testing of Employees												

Completion
Metabiota will drive the project to completion in a timely manner by maintaining a focused project schedule with routine meetings and communication with DTRA CBEP regional leadership. This will allow for continued coordination, while maintaining targeted objectives. As the activity progresses, Metabiota will provide all required deliverables and after action reports to allow for lessons learned and continuation of solid execution and implementation of activities. Metabiota believes that the experience and management it will bring to this project, in collaboration with DTRA CBEP will guarantee success.

Cost Management
The Metabiota team and all partners will maintain an acute focus on cost management to ensure that the training is delivered at a reasonable cost to the government. Our team will provide full oversight of NHLS to ensure accurate and responsive financial reporting and will facilitate cost savings to the Government wherever possible. Metabiota will follow procurement regulations ensuring the best price is received under the time constraints using all means available.

Budget Narrative

Period of Performance
The Period of Performance for this effort is 16 May 2015 – 15 May 2016.

Labor
Costs for direct labor to support this activity is required for the following personnel:

- Metabiota Program Manager: (b)(6) will oversee the execution of program objectives towards the completion of DTRA CBEP goals at the regional level, and will lead communication with DTRA CBEP for this activity. (b)(6) will do so by maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. (b)(6) will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables erstwhile ensuring the program remains within scope, budget, and timeline.
- Metabiota Trainer I: (b)(6) will ensure the execution of project objectives towards the completion of DTRA CBEP goals at the project level. (b)(6) (b)(6) will do so by managing stakeholder and subcontractor coordination and project execution, with a focus on project milestone achievement and stakeholder buy-in development and maintenance. (b)(6) will regularly communicate project status

with (b)(6) and will assist him in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder (b)(6) will also assist (b)(6) in ensuring all project requirements and deliverables are fulfilled while concurrently ensuring the project remains within scope, budget, and timeline.

- NHLS Grants Manager: (b)(6) will act as the Project Manager for each of the three proposed requirements, overseeing the design and implementation of all project activities. (b)(6) is currently the National Manager for the Safety Health and Environment Program for the National Health Laboratory Service (b)(6) has over 33 years experience in working in environmental health law enforcement including audits and evaluations, noise control, pollution control, waste management, public relations, occupational health and safety policy formulation, audit tool development and health project development and management.
- NHLS Subject Matter Expert II (b)(6) Information Manager, also supports work for the National Institute for Occupational Health (NIOH), a division of NHLS will be providing thirteen (13) years of experience in OHS research, data management, data cleaning, data extraction, information management and information technology management. (b)(6) is experienced in electronic records management, development of patient information systems, electronic patient records, occupational health information systems. In addition, (b)(6) has expertise in software development life cycle, user interface and user experience development and is the lead developer and project manager for the OHASIS information system project. Alongside (b)(6) will provide guidance and support on the IT infrastructure configuration and management for the OHASIS module development.
- NHLS Trainer I: (b)(6) is the National Deputy Manager for the Safety Health and Environment program for NHLS, where she manages and coordinates the functions and duties of five (5) qualified SHE Officers, develops and implements a Health & Safety (H & S) program for the NHLS according to international best practice and in compliance with the Occupational Health and Safety (OHS) Act and the relevant regulations, advises line management and staff on the application of relevant OHS policies and procedures to ensure compliance to legislation. Additionally, (b)(6) collates data from all OHS Audits conducted in the NHLS, generate reports and communicate results to Laboratory, Business and Executive managers. (b)(6) will provide leadership and support for the development and implementation of the BS&S video project, as well as the Fit testing training efforts.
- NHLS Research and Data Analysts (3) (b)(6) is a registered Occupational Hygienist with the Southern Institute for Occupational Hygiene (ROH-SAIOH), currently working for the National Institute for Occupational Health (NIOH), a division of NHLS. (b)(6) is responsible for conducting risk assessments and occupational hygiene surveys including illumination, noise, ventilation, hazardous chemical substances, ergonomics, environmental pollution (land, water and air) and waste management in a wide range of industries. Presently (b)(6) is involved in teaching and research in respirator fit testing, facial anthropometry and designing effective respirator protection programs. (b)(6) will act in this capacity in support for the Fit Testing project, under the leadership of (b)(6)

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(b)(6) is the Finance and Administration Manager for NHLS and has been with the organization for 15 years. He holds a national diploma in Cost Accounting and has worked as a Financial Manager for two business units within NHLS (Northern and Central) as well as two institutes within NHLS (NICD and NIOH). (b)(6) has worked with NHLS as Senior Bookkeeper for 11 years and has a total of 22 years experience working within corporate financial environments. He holds a degree in Business Communications and the major aspects of his duties include project coordination, budgeting and management accounting, event planning and co-ordination. Both (b)(6) will be assisting (b)(6) n project coordination, integration of new efforts with existing records (including the integration of the OHASIS module) and the scheduling and planning of training events.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials

Materials, equipment, and supplies are required to support training efforts, project activities, information dissemination, fit testing requirements, and general administrative costs. Material and equipment purchases are executed on a cost-reimbursable basis. The values in the proposal reflect estimates generated during the proposal development process and are subject to change based on market rates, currency fluctuations, expiring quotes, and other factors. During procurement, the actual bill of materials may change to reflect these factors. Materials will include:

- Tablet Computers, BS&S ToT program, the SHE officers will require twenty-five (25) tablet computers (Apple iPad Air) for dissemination to the identified NHLS locations. Spread throughout South Africa are nine (9) academic sites that will receive tablets (one per site), which serve as referral centres and have more than one laboratory on site. In addition, there are four (4) Regional Offices that require a total of eight (8) tablets; two (2) tablets per Regional Office, as these offices all have Administration facilities as well as laboratories. The three (3) institutes are situated on two different sites where two of the institutes share a common reception area, thus a provision is made for two (2) per site for a total of four (4) tablets. The Corporate head office has the largest number of visitors and also does a lot of training, therefore the allocation of four (4) tablets is proposed. Training on the use of the tablets, as well as the process through which to offer and administer video training will be provided at the identified facilities by experienced SHE Officers on a one on one basis with the people identified by the facility manager as being responsible for administering the video training material. It is intended that the academic centres be issued the tablet computers.
- Training video DVDs, any facilities that will not receive tablets, videos will be placed on DVD and delivered to the identified laboratories and centres by internal mail at the expense of the NHLS by the SHE Department. Any instruction on the use of the DVDs would be by means of SOPs.
- PortaCount Fit Tester, Fit testing requirement. NHLS will require the following supplies: five (5) PortaCount Pro+ Respirator Fit Tester with a 3 year calibration plan

(PortaCount Pro+ which includes AC adapter with Universal Plug Set, 8026 Particle Generator, alcohol cartridge, alcohol fill capsule, storage cap, two zero check filters, Model 8016 alcohol supplies, 3/16 and 1/4 inch hose adapters, two spare alcohol wicks, 100 sampling probes, insertional probe, neck strap, carrying case, FitPro Test software CD, Flash memory drive (1GB), USB cable, operation and service manual and two-year warranty); seven (7) Fit Test Probe Kits (1kit includes 500 probes, 500 Pushnuts); six-thousand (6000) 3M or Kimberly Clark N95 respirators; six-thousand (6,000) respirator adaptors; and five (5) boxes of isopropyl alcohol (16x30ml bottles).

Metabiota will make every effort to procure required materials based on best value (cost, quality, and longevity). Metabiota anticipates that CLS will manage shipping, and all related costs (e.g., export compliance), of items procured CONUS to the Republic of South Africa. Metabiota will coordinate with CLS contractors through DTRA CBEP to ensure this process is executed in an effective and efficient manner.

Metabiota, through NHLS, will execute transfer of custody with each individual recipient institution upon receipt of shipments of both the iPad tablets and the PortaCounts. NHLS has a equipment tracking system, and all pieces of equipment procured through this effort will be assigned a tracking number and tag upon receipt. This documentation will be copied and retained by both Metabiota and NHLS.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for NHLS personnel for the period of performance for this engagement. Metabiota personnel performing on this project are already insured.

Subcontracts

A Subcontract will be issued to NHLS to support their labor requirements on this engagement, as well as materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested to support NHLS project personnel to facilitate implementation and conduct training activities in this effort. The proposed projects require domestic (South Africa) travel for test site introduction of the OHASIS pilot modules, and for the Fit testing training. The travel estimates in the budget reflect averaged costs for airfare, lodging, and meals to multiple different locations in South Africa for travel by NHLS project personnel. Metabiota does not anticipate any international travel of its USA staff to South Africa.

Travel on the Metabiota AEP contract is cost-reimbursable with no fee attached, and thus the numbers here represent a best estimate as to the costs that are expected to be incurred. These figures represent an estimate provided to Metabiota by NHLS and verified as being reasonable by Metabiota through internet searches. Ground transportation was not broken out as a separate

The information contained herein is Metabiota PROPRIETARY information and may include Metabiota CONFIDENTIAL information and shall not be disclosed outside of the U.S. Government, as per the statement found on the cover page.

piece as airfare searches and taxi fare searches suggested that the estimates for airfare should provide enough headroom to cover ground transportation. Metabiota is aware that DTRA prefers not to pay full USG per diems to foreign nationals. As none of the travelers will be US citizens, per diem costs are set at the NHLS proposed rate, which is lower than USG standards for South Africa.

Conclusion

Metabiota is committed to supporting our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP AFRICOM in the implementation of the Biosafety and Biosecurity Training with the National Health Laboratory Services in South Africa. Metabiota will ensure, through strong project management and risk mitigation that the training will be executed in an efficient and timely manner delivering a top quality course geared to support enhanced biosurveillance and biosafety efforts in the region.

The information contained herein is Metabiota PROPRIETARY information and may include Metabiota CONFIDENTIAL information and shall not be disclosed outside of the U.S. Government, as per the statement found on the cover page.

Appendix A- Team Metabiota Overview

Metabiota, Inc. is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science, including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in 20 countries and offices in San Francisco, Washington, China, Canada, and Sierra Leone.

Metabiota currently supports a number of the Defense Threat Reduction Agency Cooperative Biological Engagement Program (DTRA CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. In these roles Metabiota provides support to U.S. Government (USG) Partners in reducing the risk of biological threats worldwide through a collaborative and agile approach to biological risk management.

In coordination with DTRA CBEP regional leadership and in-country partners, Metabiota has built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGO) whose respective aims could impact DTRA CBEP objectives.

Through this activity, Metabiota will engage South Africa's National Health Laboratory Services (NHLS) in order to direct technical support in the development and implementation of the biosafety and biosecurity (BS&S) initiatives. Established through legislation in 2001 to connect public health system laboratories, NHLS is the largest diagnostic pathology service in South Africa. Laboratory and related public health services are provided by the NHLS to over 80% of the population through a national network of laboratories in all nine provinces, employing over 6,700 people. NHLS activities comprise diagnostic laboratory services, research, teaching and training, and production of sera for snake antivenin, reagents, and media. Its specialized divisions include the National Institute for Communicable Diseases, National Institute for Occupational Health, National Cancer Registry and Antivenin Unit.

The information contained herein is Metabiota PROPRIETARY information and may include Metabiota CONFIDENTIAL information and shall not be disclosed outside of the U.S. Government, as per the statement found on the cover page.

OPTION YEAR - SOW Section 4.3, Task 3: Biosafety and Biosecurity Training with South

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: July 1, 2015
PERIOD OF PERFORMANCE: 16 May 2015 - 15 May 2016
PROJECT: NHLS BS&S

oaded based on MOD 18	Hours		Amount
...nager	419	$	58,215.86
Research and Data Analyst	230	$	17,700.80
Trainer I	583	$	73,708.69
Subject Matter Expert I	240	$	30,343.20
Grants Manager	240	$	25,068.00
Total Labor Costs (fully loaded):	**1,712**		**$205,037**
OTHER DIRECT COSTS *(fully loaded).*			
CLIN 1003 Materials		$	111,454.09
CLIN 1004 ODCs		$	4,092.47
CLIN 1005 Travel		$	15,024.00
Total Other Direct Costs (fully loaded):			**$130,571**
Total: Estimated Future OHE			**$335,607**

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 1-Jul-15
Project NHLS BS&S
Period of Performance: 16 May 2015 - 15 May 2016

CLIN No.	Labor Description	Cost	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager			
CLIN 1002	(b)(4); (b)(6)			
CLIN 1002				
CLIN 1002				
CLIN 1002				
				(b)(4); (b)(6)

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 1 Jul 15
Project NBLS BS&S
Period of Performance: 16 May 2015 - 15 May 2016

Biosafety Video

CLIN No.	Item	Cost (US Dollars)	Number of Req.	Total Billable Amount $
1003	iPAD Air Tablet	$ 602.07	25	$ 15,051.75
1003	DVD	$ 4.00	500	$ 2,000.00
1003	APPLE LIGHTNING TO USB CABLE (2 M.	$ 35.04	25	$ 876.00
1003	Apple Lightning To Usb Cable (1M)	$ 23.12	25	$ 578.00
1003	APPLE 12W USB POWER ADAPTER	$ 20.96	25	$ 524.00
1003	DuraFolio Protective Cover for iPAD Air	$ 44.99	25	$ 1,124.75
1003	Portacount w. 3-yr calibration plan	$ 15,440.00	5	$ 77,200.00
1003	Respirators	$ 1.00	6000	$ 6,000.00
1003	Adaptors	$ 0.37	6000	$ 2,220.00
1003	Alcohol	$ 2.00	150	$ 300.00
			Sub-Total	$ 105,874.50
			SMH 5.27%	$ 5,579.59
			Fully Loaded Amnt:	- $ 111,454.09

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 1-Jul-15
Project NIILS BS&S
Period of Performance: 16 May 2015 - 15 May 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance	$ 3,131.07	1	$ 3,134.07
1004				$ -
1004				$ -
1004				$ -
1004				$ -
			Sub-Total	$ 3,134.07
			G&A 30.58%	$ 958.40
			Fully Loaded Amnt:	$ 4,092.47

TRAVEL ESTIMATE COST

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 1-Jul-15
Proposal: NHLS BS&S
Period of Performance: 16 May 2015 - 15 May 2016

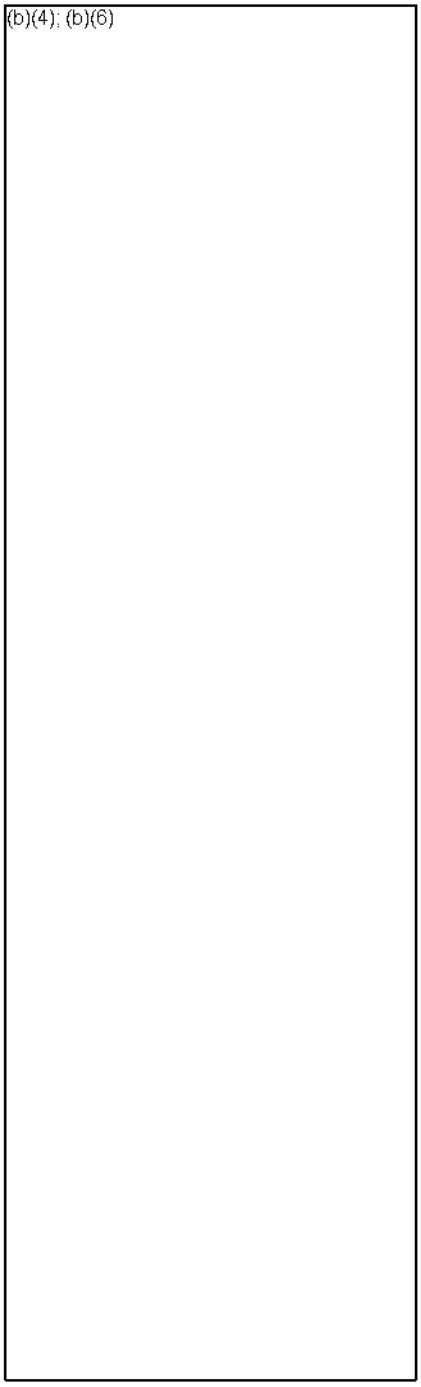
	Local	Local
Traveler(s):	SME Staff	Grants Manager & Subject Matter Expert 1
Departure Location:	other NHLS site	Johannesburg
Destination:	Johannesburg	other NHLS site
Purpose:	Fit Testing	Equipment Testing
Airfare	$429.00	$129.00
Lodging	$117.00	$117.00
Meals / Incidentals	$50.00	$50.00
Incidentals (Visa)	$0.00	$0.00
# of Days	2	2
Total Per Trip	$626	$626
No. of trips	6	6
No. of persons	2	2
SUBTOTAL:	$7,512.00	$7,512.00

GRAND TOTAL
$15,024

USG Foreign Per Diem Rates

Location	Maximum Lodging	M&IE	Total

(b)(4) (b)(6)


(b)(4); (b)(6)

WORKABLE HOURS

LABOR						COST					
NAME	Phase	TYPE	CATEGORY	DESCRIPTION	TOTAL	BILLABLE RATE	ACTUAL RATE	TOTAL BUDGET	EST ACTUALS AT BILLABLE RATE	VARIANCE	DBA
(b)(4); (b)(6)											

#	DTRA Comment	Metabiota Response	Location in proposal
	(b)(6)	(b)(6)	
1	[redacted] an ongoing activity initiated in the contract Base Year, please clarify the number of labor hours allocated to specific activities prior to July 1, and their associated costs	May [SME3 - 72 hours] for proposal development, project integration (e.g., invoicing, subcontracts for T&M, management of Obj 1 activities). June [PM - 55 hours, SME1 - 17.5 hours, SME3 - 1 hour, PDA - 18.5 hours] for proposal development, including meetings with NHLS while transitioning to the T&M contract, as well as program management to prepare for implementation of Obj 2 & 3 July [PM - 19.5 hours, SME1 - 41.5 hours, SME3 - 1 hour, PDA - 10 hours] - stakeholder meeting, while waiting through implementation, and subcontracts associated with the T&M The increase in hours are, primarily, tied to the change in contract mechanism. The new total of 1712 includes all hours needed to complete Obj 2 and 3 from the NHLS side, as well as Metabiota program/project management hours (Program Managers and Project Coordinators are no longer accounted for under the PMO, but instead are billed per project). The T&M contract takes into account Metabiota PM/PC hours [582 total, figured at approximately 20% of time	N/A
2	The original proposal dated September 9, 2014 proposed 855 total labor hours and included 5 individuals to support the effort. The new proposal submitted July 1, 2015, included a total number of labor hours of 1712, and included a total of 9 individuals to support the effort. Please explain the rationale behind the two fold increase in the proposed number of hours and individuals required to support the same activity given that the scope did not change. In addition, please clarify if the 855 hours originally planned were fully expended (and if so, on what activities) or if those hours are a part of the 1712 hours included in the latest proposal submission	2014 - Cassidi Jones (175), Michelle Morgan (200), Shanaz Hampson (100), Lincoln Darwin (240) ***4 persons*** 2015 - Dennis Lee (479), Rachel Campbell (368), David Jones (240), Jay Hua (80), Adrian Michee (30), Lincoln Darwin (240), Michelle Morgan (120), Jeanneath Manganyi (120) ***8 persons*** Jeanneath was in the budget narrative for the original proposal, but did not have hours allocated in the budget - this was an error totaling 120 hours. Of the original 855 hours, only 255 hours were expended towards Objective 1, as only Objective 1 was approved originally. Early discussions with NHLS PM, David Jones, suggested that NHLS appreciated the financial support provided by DTRA for these objectives. Furthermore, David noted that without this support, NHLS would simply not have the resources to execute these tasks. Importantly, he verbally acknowledged that the labor hours requested were, likely, insufficient to complete the outlined objectives; however, labor was something the NHLS personnel could manage to cover from a corporate perspective. To this end, the hours outlined for NHLS to complete these objectives are minimal and most likely insufficient, but proposed as part of a good faith estimate/effort for meeting programmatic requirements. NHLS is/was prepared to manage additional hours at their expense to complete	N/A
3	Metabiota define the acronym "OHASIS" as the Overseas Humanitarian Assistance Shared Information System, however the definition should be Occupational Health and Safety Information System. Please correct.	Not sure how this came to be - the text has been corrected	p. 3
4	The "Travel Cost" matrix breaks down costs into the categories of: airfare, lodging, and meals and incidentals. In many cases, ground transportation is a cost included in travel estimates; however, it does not appear to be specified in the proposal. Please clarify if there is a need for ground transportation.	Travel on the Metabiota AEP contract is cost-reimbursable with no fee attached, and thus the numbers here represent a best estimate as to the costs that are expected to be incurred. These figures represent an estimate provided to Metabiota by NHLS and verified as being reasonable by Metabiota through internet searches. Ground transportation was not broken out as a separate piece as airfare searches and taxi fare searches suggested that the estimates for airfare should provide enough headroom to cover ground transportation. Metabiota is aware that DTRA prefers not to pay full USG per diems to foreign nationals. As none of the travelers will be US citizens, per diem costs are set at the NHLS proposed rate, which is lower than US G standard.	Technical Proposal, p13
5	The "Travel Cost" matrix defines the allotted funds for lodging, meals, and incidentals, but the proposed rates fall below the USG Foreign Per Diem Rates included in the proposal. Please confirm that the proposed costs are correct.	This explanation has been added to the budget narrative.	
6	Metabiota proposed the provision of 25 tablet Apple iPad Air. However, the technical proposal did not discuss the property transfer process. Please clarify the plan to accomplish this activity.	Metabiota, through NHLS, will execute transfer of custody with each individual recipient institution upon receipt of shipment of both the iPad tablets and the PortaCounts. This documentation will be copied and retained by both Metabiota and NHLS	Technical Proposal, p13
		This information has been added to the budget narrative	
7	The materials estimate section lists 25 Apple Lightening to USB Cables twice and with two different costs. Please clarify the disparate costs and explain why they are not duplicative	Materials and equipment purchases are executed on a cost-reimbursable basis. The values in the proposal reflect estimates generated during the proposal development process, and are subject to change based on market rates, currency fluctuations, expiring quotes, and other factors. During procurement, the actual bill of materials may change to reflect these factors. The budget narrative has been amended to reflect the above. Here, Metabiota has priced out two different lengths of cables (1m vs. 2m) from South African vendors. Both are included in the estimate for both flexibility in specific use cases and realized, e.g., as charging cables typically have a length only shorter (in, per than tablets through daily wear. The budget has been amended to clarify the two lengths of cables.	Technical Proposal, p12 Budget, Materials tab
8	Under 'Phase 2' Deliverable 2, Metabiota proposed to develop and conduct online e-learning training and training manuals. Please clarify how many trainings are planned and confirm that adequate hours were included in the proposal to support the training	Metabiota and NHLS will pilot the OHASIS module at up to three institutions. During these sessions, the online training materials and manuals will be tested. I would consider the goal to be more akin to beta testing than formal trainings - once the module and its instructional systems are complete, NHLS intends to roll it out to more than just the three institutions in the pilot program, but will do so on its own timeline. As indicated in the response to #2, the hours proposed were suggested by NHLS and may in truth be insufficient, but NHLS have agreed to cover the costs of any additional labor that is required to accomplish the objective.	Technical Proposal, p8
9	Under 'Phase 3, Process' Metabiota proposed conducting initial Fit Testing trainings for a select starting cohort of National Health Laboratory Services (NHLS) Staff. However, Metabiota did not specify the number of initial training sessions. Please clarify the level of effort required.	Metabiota is working with NHLS to determine the best path forward. Initial planning had suggested the possibility of deploying the core training team out to each major location to conduct trainings, but through discussions with NHLS we are now considering a single centralized training where the teams which will be assigned to each Portacount unit would be trained simultaneously. They may be supported or observed in subsequent fit-testing efforts by the lead trainer. The level of effort required for this effort is already included in this budget	N/A

10	Under 'Management Approach,' Metabiota included 'Initiation' as an activity. However, initiation was included as an activity to be performed under the original technical directive provided in the contract Base Year. All proposed "Phases" are a continuation of ongoing activities. If any hours are allocated towards this activity, CBEP recommends removing them from the current proposal.	No hours have been allocated to "Initiation" in this proposal or corresponding budget. The text in the "Management Approach" is essentially how we approach all projects under AEP, and the standardized text was included for completeness of understanding	N/A
11	In May 2015, Metabiota provided a status update of NHLS BS&S on-going activities which estimates a four month completion timeline on proposed Phase 1 and Phase 2 activities. Under the current proposal, Metabiota provides a timeline of six months for Phase 1 and seven months for Phase 2. Since the scope did not change, please clarify the cause for the increase in the proposed schedule.	While implementing activities associated with Obj 1, Metabiota encountered the internal bureaucracy associated with approvals and forward movement on the NHLS side. As an example, NHLS posted a tender for the videography component in August, which closed on 15 September 2014 as planned. But was not approved until 27 January 2015. It took ~135 days to gain the final approval from the NHLS CEO, which was required prior to the start of any Obj 1 activities. We felt it prudent to build a buffer of three additional months to account for NHLS internal approval processes.	N/A

From: (b)(6)
To:
Cc:

Subject: [Non-DoD Source] Re: TD-009 Rev A: BS&S Trng in SA and TD-023 Rev A: SA OHE Updates (No Cost PoP Extensions)
Date: Friday, May 13, 2016 2:39:41 PM
Attachments: Draft_CTR-AEP-CBEP_TD-009RevA_BS&S Training in SA.pdf
Draft_CTR-AEP-CBEP_TD-023RevA_SA_OHE_Updates.pdf

Colone (b)(6)

Please find our signed TD's attached. For each of the TD's (e.g., TD-009 and TD-023), we recognize the updated TD extends our project period of performance, but does not change any other components of the previously approved activity.

Best regards,
-Brad

(b)(6)
Deputy Program Director - AEP
Metabiota, Inc.
(b)(6)

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On 5/13/16, 12:16 PM, "(b)(6)
(b)(6) wrote:

>Please find attached, TD-009 Rev A and TD-023 Rev A extending the Period of Performance (PoP) from 15 May 2016 to 15 November 2016 at no additional cost.
>
>Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also Cc'd), if you have any technical questions.
>
>Thanks.
>

(b)(6) USAF
>Program Manager, Academic Engagement Partnership (AEP) Program
>J3CTB/Cooperative Biological Engagement Program
>8725 John J. Kingman Rd
>Ft Belvoir, VA 22060
>W: (b)(6)

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	009	A

4. TD TITLE
BS&S Training in South Africa

5. TOTAL TD ESTIMATE:
HOURS. _____ DOLLARS: $ **$335,608**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE: 703-767-0137 EMAIL: (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE: 202-412-4970 EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-009 from 15 May 2016 to 15 November 2016 at no additional cost. This PoP extension is to provide enough time to continue biosafety and biosecurity training implementation in South Africa. Metabota should coordinate directly with the Technical POCs identified below. No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV.
$ **$335,608**

12a. CURRENT PERIOD OF PERFORMANCE
16-MAY-2015 – 15 MAY 2016

12b. TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE
Signature: (b)(6)
Date: **13 May 2016**

14. REGION
AFRICOM/ South Africa

15. TECHNICAL POINTS OF CONTACT
South Africa Country Manager:
(b)(6)
AFRICOM Science Manager:
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X
(b)(6)

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	023	A

4. TD TITLE
South Africa One Health Epidemiology Short Course Curriculum Updates and Edits

5. TOTAL TD ESTIMATE:
HOURS. _700_____ DOLLARS: $ **$110,000**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE:_703-767-0137_ EMAIL: (b)(6)

7. CONTRACTOR POC
NAME: DR. (b)(6)
PHONE. 202-412-4970 . EMAIL. (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-023 from 15 May 2016 to 15 November 2016 at no additional cost. This PoP extension is to provide enough time to continue implementing revisions (identified in TD-10) to the Walter Reed Army Institute of Research (WRAIR) Epidemiology Short Course curriculum as this material will be transformed into an adapted One Health Epidemiology Short Course, tailored for South Africa. Metabota should coordinate directly with the Technical POCs identified below. No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV.
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV.
$ **$110,000**

12a. CURRENT PERIOD OF PERFORMANCE
21-MAR-2016 – 15 MAY 2016

12b. TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE
Signature: (b)(6)
Date: **13 May 2016**

14. REGION
AFRICOM/ South Africa

15. TECHNICAL POINTS OF CONTACT
South Africa Country Manager
(b)(6)
AFRICOM Science Manager
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X
(b)(6)
COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

>Email: (b)(6)
>
>
>
>

TD 010 One Health Epi Training - South Africa

Objectives

Increase the operational biosafety and bio-surveillance capacity through training events and the development of standard operating procedures for emergent disease outbreak response, supporting interagency cooperation and a unified training approach.

Period of Performance: 05/16/2015 - 12/3/2015

CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$124,815.63	$22,820.66	$101,994.97
1003	$663.20	$0.00	$663.20
1004	$576.60	$0.00	$576.60
1005	$8,496.50	$0.00	$8,496.50
TOTAL	$134,551.93	$22,820.66	$111,731.27

CLIN 1002 – Labor

Per contractual agreement with DTRA CBEP it was determined that this non-legacy project will not begin incurring operational costs prior to technical direction approval. Listed below is a breakdown of labor activity associated with proposal development and related proposal development communication with DTRA CBEP representation.

Program Manger: 48 Hours

(b)(6) was responsible for leading the development of the original technical proposal and for managing and assigning tasks to all those involved in the process. He was responsible for communication to DTRA during this time. (b)(6) assumed the management role upon his arrival at Metabiota and took over the responsibility of maintaining communication with DTRA CBEP representation, setting up bi-weekly calls, developing a communication plan, and ensuring that the Metabiota project team was prepared for the approval of the technical direction.

Trainer 1:

(b)(6) was tasked with building out the technical proposal at the direction of (b)(6) and with input from (b)(6) She was also responsible for providing expertise on government and DOD requirements, working with (b)(6) to develop a communication strategy with all stakeholders.

Trainer 3: 12.5 Hours

Robyn Woodbury's activities included technical support for proposal development with regard to training scheduling and timeline development regarding the materials review process.

Subject Matter Expert 3: 30 Hours

(b)(6) provided technical expertise in proposal development (b)(6) was tasked to ensure that adequate time and Level of Effort was assigned to each labor category from a technical perspective. She was also tasked with providing advice and insight to the program manager and program coordinator regarding the development of the operational phase timeline.

CLIN 1003 – Materials and Supplies
No Costs Incurred

CLIN 1004 – ODCs
No Costs Incurred

CLIN 1005 – Travel
No Costs Incurred

Metabiota

Invoice:	INV-0000000239	**Invoice End Date**	7/31/15
Invoice Amount	903,658.46	**Invoice Due Date**	2015-10-08
Remit To:		**Bill To:**	
Metabiota,Inc.		Defense Threat Reduction Agency	
1 Sutter Street, Suite 600		8725 John J. Kingman Rd.	
San Francisco		Ft. Belvoir	
CA		VA	
94104		22060-6201	

TD-010 One Health Epi South Arica

(b)(4); (b)(6)

TD 010 One Health Epi Training - South Africa

Objectives

Increase the operational biosafety and bio-surveillance capacity through training events and the development of standard operating procedures for emergent disease outbreak response, supporting interagency cooperation and a unified training approach.

Period of Performance: 05/16/2015 - 12/3/2015

CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$124,815.63	$50,392.30	$74,423.34
1003	$663.20		$663.20
1004	$576.60		$576.60
1005	$8,496.50		$8,496.50
TOTAL	$134,551.93	$50,392.30	$84,159.64

CLIN 1002 – Labor

Program Manger: 48 Hours

(b)(6) provided facilitation and oversight to the program. His efforts included leading separate biweekly calls with both DTRA CBEP representation and project performers in country. Jay provided oversight to the development of the project schedule and the project communication plan. He additionally lead coordination efforts to both support the review and analysis of the One Health Epidemiology landscape in South Africa, and to prevent duplication of efforts on behalf of the subject matter experts.

Additionally, and to ensure understanding among the project team, (b)(6) ead individual calls with each in-country stakeholder. This provided an opportunity for direct questions and thorough explanation of project purpose and scope.

Trainer 1: 57.5 Hours

(b)(6) assisted with completion of Module 1 review and analysis by developing content outlines for all subject matter experts supporting this component. In addition she coordinated bi-weekly stakeholder meetings and Bi-Weekly calls with DTRA CBEP and participated in meetings regarding technical completion of the effort (b)(6) was additionally responsible for taking meeting notes and disseminating relevant information to relevant project stakeholders.

Subject Matter Expert 2: 30 Hours

(b)(6) completed the module 1 review and analysis of one health epidemiology materials, and engaged in conversation with other subject matter experts contributing to this project. She provided weekly reports to (b)(6) regarding her progress and contribution to the one health epidemiology landscape review and analysis, and presented suggestions to support effective communication between all project subject matter experts..

CLIN 1003 – Materials and Supplies

No Costs Incurred

CLIN 1004 – ODCs
No Costs Incurred

CLIN 1005 – Travel
No Costs Incurred

Metabiota						
TD-010 One Health Epi South Africa						
CLIN 1002 LABOR						
NAME	LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED

(b)(4) ; (b)(6)

#	DTRA Comment	Metabiota Response	Location
[redacted]			
1	Under the 'Labor' section of the 'Budget Narrative,' Metabiota proposed SME III or Trainer III to be included "as needed," but these positions are listed as FTEs in the labor matrix and are a part of the total budget. Please clarify the actual number of hours needed, if any,for these labor categories.	Please note that the "FTE" designation implies these individuals are Metabiota personnel and will be matrixed into this activity as necessary. The use of FTE does not imply that these individuals are assigned to this particular project full time. Specifically, these labor hours had been assigned to both an employee who is no longer part of the organization as of 12 August 2015, in Trainer III (Robyn Woodbury), as well as a yet to be determined SME III Clinician - identified in the narrative in the case that an individual with practical medical knowledge is needed to review or prov de advisement on the development of training materials . Both of these labor hour catergories were set to be filled by full - time Metabiota staff on an as needed basis; however, after examination of the current needs for the program, each of these labor categories have have been reduced and altered. Trainer III hours have been reduced 50% and changed in category to Trainer II. SME III hours have been reduced 75%. Metabiota still anticipates a need to employ the expertise of individuals who qualify at each of these labor categories. Changes have been made to the budget, and the budget narrative has been updated. Please also note that the budget provided for this effort is a rough order of magnitude (ROM) and is not contractually binding. The hours proposed are in a best faith estimate for effectively and efficiently executing the requirement. If hours are not needed, the USG will not be billed for them.	TD-010 OHE-SA Budget 20150826 'labor detail'; Metabiota Technical and Cost proposal pg. 12-13
2			
3	3. Metabiota proposed the need for a program manager, a project coordinator, and a subject matter expert III. Since this is an ongoing activity, CBEP anticipates that personnel under these labor categories will pick up from where previous efforts stopped. Please clarify how Metabiota will ensure no duplication of effort and how each labor category will continue work from past activities.	Metabiota will proceed using the same personel for the positions of coordinator and subject matter expert III. However, a new porgram manager, Jay Miller, has been hired and will take over the role from Dennis Lee. Mr. Miller has been briefed by Metabiota AEP leadership on the expectations a nd standing of the project and will proceed in kind. As a whole, Metabiota staff will avoid duplication of efforts through careful planning and tracking of activities asspicated with all tasks outlined in TD-010. Metabiota will adhere to a strict schedule from the beginning of phase 1 that ensures culpability regarding the accomplishme nt of each task and prevents duplicate billing	TD-010 OHE-SA Budget 20150826 'labor detail'; Metabiota Technical and Cost proposal pg. 12-13.
4	4. The 'Travel Cost' matrix breaks down costs into the categories of: airfare, lodging, and meals and incidentals. In many cases, ground transportation is a cost included in travel estimates; however, it does not appear to be specified in the proposal. Please clarify if there is a need for ground transportation.	There will be a need for ground transportation in country. This oversight has been rectified. Per person cost estimates have been calculated based on previous travel to the region and incorporated into the budget.	TD-010 OHE-SA Budget 20150826 'travel costs reimburseable';
5	5. It is unclear what the proposed "office supplies" and "in-country communications capabilities" are expected to be, or how Metabiota arrive at the estimates proposed. Please clarify the basis of estimate for the proposed materials and supplies, and review the proposed materials budget for completeness.	We anticipate the need to have general office supplies and presentation materials during Metabiota's in country efforts. We will additionally require some significant capacity for in-country communication including cellular and wifi usage. These costs have been itemized within the budget and are based on previous travel to the region.	TD-010 OHE-SA Budget 20150826 'Materials'; Metabiota Technical and Cost proposal pg. 13-14.

Metabiota's Technical and Cost Proposal

"DTRA/CBEP Review and Tailor One Health Epidemiology Training Materials
for Republic of South Africa (OHE-RSA)

Technical Direction Number: TD-010
Contract Number: HDTRA1-14-C-0104
CAGE Code: 56SP4
DUNS number: 828131156
Version 2

Small US Business
Metabiota, Inc.

METABIOTA

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Regional Science Manager: (b)(6)
(b)(6) (b)(6)
Email
(b)(6)

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Executive Summary

In response to Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) regional leadership tasking via the Academic Engagement Partnership (AEP) contract vehicle, Technical Direction 010, Metabiota, Inc. seeks to support the DTRA CBEP mission through the conduction of a tailored review and, if found necessary, modification of existing One Health Epidemiology (OHE) Walter Read Army Institute of Research (WRAIR) Training Modules One and Two for key stakeholders in the Republic of South Africa (SA).

Through this activity, Metabiota will engage with key South African stakeholders including the Centers for Disease Control and Prevention – South Africa (CDC-SA), U.S. Department of Agriculture – South Africa (USDA-SA), and South Africa. This task will allow for the development of modified training materials, based on existing OHE materials developed by epidemiologists from the Walter Reed Army Institute of Research (WRAIR), to ensure that successive trainings will meet the specific training objectives and requirements of South Africa. Current OHE training materials cover basic epidemiology (Module One) and outbreak investigations (Module Two). These modules introduce basic concepts of epidemiology, statistics, outbreak investigation, surveillance, One Health, and clinical recognition of pathogens with bioterror potential.

These proposed efforts will focus on enhancing South African capacity to conduct OHE trainings, thereby enhancing the capacity to conduct disease prevention, detection, surveillance and response activities. Moreover, this activity will concurrently facilitate cooperative scientific engagement amongst key stakeholders in South Africa in support of the DTRA CBEP mission.

This document outlines the approach that Metabiota will employ to accomplish the requirement. In short, Metabiota intends to:

1. Conduct a comprehensive review of existing OHE WRAIR training materials, a landscape review of current status and understanding of South African training requirements and objectives, and coordinate revision or addition discussions.
2. Develop final revision recommendations of existing OHE materials.
3. Identify OHE training material approval requirements for South Africa and provide scientific and technical support for the facilitation of host country approval.

Project Overview

Background

Over the past few decades, we have experienced a dramatic increase in the rate of emergence and re-emergence of infectious diseases. On average, one new virus emerges every 19 months, most often with origins in animal populations. The threat of emerging pathogens affecting humans worldwide continues to increase; and underscores the need for effective, integrated human and animal disease surveillance, reporting, diagnostics and response capabilities.

To manage these risks, DTRA CBEP aims to reduce potential impacts of biological threats by enhancing biological safety and security (BS&S), awareness of biological risks, and knowledge

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related to biological pathogens globally. To do so, DTRA CBEP works collaboratively with partner nations, other USG agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health; promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner. In AFRICOM, specifically, DTRA CBEP seeks to enhance One Health Epidemiology capabilities and develop and maintain local and regional operational and training capacity in order to sustainably manage the threat of infectious disease events.

In support of this approach, Metabiota intends to administer a high-value review and revision process with key South African stakeholders in order to support strategic DTRA CBEP objectives by increasing local and regional capacity to conduct OHE trainings through collaboration on topics critical to biological threat reduction, and enhancing the regional capacity to for biorisk management thereby managing the threat of infectious disease events. The teams on-the-ground experience and decades of expertise makes Metabiota well positioned to support the implementation of this activity, as well as scientific engagement in the AFRICOM's area of responsibility.

Goals and Objectives

This activity aims to facilitate approval of OHE training materials by the relevant stakeholders in the government of South Africa. Metabiota will provide DTRA CBEP partners in South Africa with support to properly orient existing OHE training materials to best fit their country-specific objectives and requirements as well as understand the necessary steps for host country approval of the OHE trainings. The delivery of these requirements will cultivate OHE knowledge and in-country capacity expansion in South Africa and allow for further opportunities for national and regional engagements.

To achieve this purpose, Metabiota and their collaborative partners will:

- Identify and collaborate with key South Africa stakeholders to develop a communication plan for the OHE training material review
- Conduct a comprehensive SME review of existing OHE training materials to provide technical support to the South African stakeholders
- Conduct a training landscape review describing the training objectives and requirements of South Africa
- Develop recommendations for revision or additions to existing OHE training materials based on identified South African training needs
- Provide scientific and program management support to facilitate host country approval of OHE training
- Develop a proposed training event plan based on specific training needs and requirements for South Africa. (i.e. type and number of trainees, etc.)

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Impact

Through the implementation of a Metabiota facilitated review of existing OHE training materials with key South Africa stakeholders, and the identification of South African requirements for host-county OHE training approvals, DTRA CBEP will have:

- Enhanced South Africa's capacity to conduct OHE trainings, thereby enhancing their national and regional capacity to conduct disease prevention, detection, surveillance and response activities for pathogens with bioterror potential.
- Facilitated cooperative scientific engagement amongst key stakeholders in South Africa and enhancing their networks for collaborative research and disease detection and control activities.

This activity will provide a measurable and achievable result in the coordination of approval for OHE training materials while promoting a collaborative network with key local stakeholders in South Africa.

Risk Management

In order to maintain course action and guarantee trainings that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown on the next page as Table 1. Identifying and acknowledging the risks associated with not implementing this training, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Schedule and Performance						
Technical Engagement/Input	Key South African stakeholders not engaged in the process and do not provide review comments and feedback in timely manner	5	3	**Med-High**	Metabiota will work closely with CBEP to identify and engage the most appropriate coordination points of contact for each key stakeholder	Med
Communication	Effective, informative, and ongoing communication with key SA stakeholders to allow for coordination of efforts and meet the deliverables	4	4	(b)(4); (b)(6)	Metabiota will hold regularly scheduled conference calls with key SA stakeholders and CBEP to encourage ongoing discussion throughout all phases of this effort	Med
Fluidity in Process and Coordi	Identifying the necessary tasks to facilitate host country approval will be an iterative process, and the overal objective must be maintained through the multiple iterations	5	5	Med	Metabiota will discuss goals and objectives for each iteration of the review and revision process to ensure that overall objective is met	(b)(4); (b)(6)

Implementation Plan

Introduction

Metabiota will employ its existing organizational leadership to interface with the Regional Science Manager and Regional Program Manager, and Country Manager to direct the operational and administrative support required to ensure implementation of OHE RSA. Our Program Manager will oversee these activities, with the support of Research and Data Analyst, Project Coordinator, stakeholder collaborators and SMEs to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Communications Protocols

Metabiota will maintain open communications with international collaborators necessary for implementing the training, to include local and regional stakeholders. In addition, Metabiota will maintain routine communication with DTRA CBEP to ensure they have full visibility on the training engagement, status and process of execution.

Technical Approach

Phases of Technical Approach

Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project phases and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. The following phases are required for this project:

Phase 1: Initiation and Coordination
- *Subtask 1: Identification of Stakeholders*
- *Subtask 2: Requirements Review*

Phase 2: Training Materials and Landscape Review
Phase 3: Host Country Approval Facilitation Support

Phase 1 – Initiation and Coordination (July 1 – September 15, 2015)

Subtask 1: Identification of Stakeholders
Objective: Identify all relevant stakeholders necessary for training material approval and develop and establish a working communications plan for coordination of project efforts.

Process: Metabiota, in coordination with DTRA CBEP, will identify POCs with key in-country stakeholders including, but not limited to, the Centers for Disease Control and Prevention – South Africa (CDC-SA), U.S. Department of Agriculture – South Africa (USDA-SA), and key entities within the government of South Africa including but not limited to the Department of Agriculture, Forestry and Fisheries (DAFF), National Department of Health (NDOH), and National Institute for Communicable Diseases (NICD).

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Subtask 2: Requirements Review
Objective: Understand South Africa approval requirements and processes.

Process: In coordination with key in-country stakeholders, Metabiota will determine what processes are required to secure host country approval of training materials. During this time, the lead Metabiota SME will conduct a comprehensive review of the existing OHE training materials to enable them to provide the South African stakeholders with technical support during the materials review process. Based upon their initial assessment of SA needs and training materials, the lead SME may require additional SME resources. As coordination proceeds, Metabiota will solicit an opinion from key SA stakeholders as to the suitability of the current training materials for South African training needs and determine whether they currently meet the standards for approval.

Deliverables:

- Deliverable 1: Submission of key stakeholder POC list and communication plan.
- Deliverable 2: Submission of South African host country approval requirements and process report.
- Deliverable 3: Submission of SME OHE review report.

Phase 2 – Training Landscape Development (September 16, 2015 - December 31, 2015)
Objective: Develop an understanding of South African training objectives and requirements and identify potential revisions or additions to existing OHE materials.

Process: Metabiota will coordinate with stakeholder POCs to develop an understanding of South Africa's training objectives and requirements for the conduction of OHE trainings and for the host-country approval of OHE training materials. Metabiota SME's will provide stakeholders with an overview of the existing OHE training materials and preliminary recommendations for areas of review. Based on stakeholder input, Metabiota will develop a training landscape review.

Deliverables:

- Deliverable 1: Submission of the landscape review report.

Phase 3 – Host Country Approval Facilitation Support (September 1-February 29, 2016)
Objective: Identify revisions or additions to OHE training materials, and provide support to South African stakeholders in obtaining host country approval of OHE trainings and training materials.

Process: Metabiota will provide recommendations for revisions or additions to the existing training material based on inputs gathered from key stakeholders in previous stages. Metabiota SME's will engage, facilitate, and support SA stakeholders in their efforts to make any modifications necessary for host country approval. During this time, Metabiota SMEs and Program Management will coordinate with SA stakeholders to ensure proper technical and

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program management support is provided to facilitate the host country approval process. Near the end of this phase, Metabiota will convene an in-country working group meeting with SA stakeholders to facilitate any final modifications to the material. At this time, if the SA environment allows for it, Metabiota will develop an OHE training plan with the SA stakeholders.

Deliverables:

- Deliverable 1: Submission of OHE training material revision or addition recommendations.
- Deliverable 2: Provide monthly updates on OHE training material host country approval.
- Deliverable 3: Submission of post-action report and OHE training plan recommendations.

The below table describes the detailed technical approach that Metabiota will take to complete this effort and provide the required deliverables. The following table (Timeline) describes the anticipated timeline of each phase.

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Technical Approach

Program Element	Program Tasks	Resources Required	Key Milestones and Deliverables	Projected Timeline
Phase 1.1: Coordination	• Develop list of SA and USG stakeholders necessary for training material approval • Develop communication plan for coordinating with all relevant stakeholders	• SME III – Epidemiology • Program Manager (PM) • Project Coordinator (PC)	1. Establish communication with key stakeholders 2. Communication Plan	Months 1-2
Phase 1.2: Requirements Review	• Develop understanding of requirements and process for training material approval • Conduct comprehensive review of existing OHE training materials • Gather initial assessment by SA stakeholders of status of training materials.	• SME III – Epidemiology • SME III/Trainer III (as needed) • Program Manager (PM) • Project Coordinator (PC)	1. Documented process for approval of materials 2. Complete review of existing OHE training materials	Months 1-2
Phase 2: Training Landscape Development	• Coordinate with key stakeholders to understand SA training objectives and requirements; based on input from key stakeholders develop training landscape review • Provide overview of existing OHE training materials; coordinate with key stakeholders to understand SA concerns with training materials and why	• SME III – Epidemiology • SME III/Trainer III (as needed) • PM • PC	1. Obtain clear understanding of SA training objectives and requirements 2. Training Landscape Review	Months 3-6
Phase 3: Facilitation of Host Country Approval	• Develop recommendations in conjunction with SA stakeholders for revision of materials or additional content. • Provide scientific/technical and program management support to facilitate host country approval of OHE training	• SME III – Epidemiology • SME III/Trainer III (as needed) • PM • PC	• Recommendations for OHE training materials revisions or additions • Facilitate SA approval for OHE training materials • Post-action report and OHE training plan	Months 3-6

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Timeline

Phase	Q3 2015			Q4 2015			Q1 2016		
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
Phase 1: Initiation and Coordination									
Phase 2: Training Landscape Development									
Phase 3: Host Country Approval Facilitation Support									

Management Approach

Project Team Structure

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the Program Manager, Trainer, and Subject Matter Experts based on their administrative and scientific expertise. This team of experts will ensure the overall project management and tasks associated with this effort are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.

Initiation

Prior to initiating any action, Metabiota and DTRA CBEP will secure a clear understanding of the objectives and mission of this undertaking, and make sure all stakeholders agree to it. Following authorization to proceed by DTRA CBEP, Metabiota will move into the planning and execution of the community outreach and regional workshop activities.

Execution

The core project management team will maintain oversight and implementation of the project at all times and will ensure rapid execution of this effort, tracking objectives to ensure the project stays on schedule to finalize the adapted training materials. The project will be managed according to the phased implementation plan and will be course corrected, as needed to ensure target end-goals are reached. The following tools will be used to guarantee the project schedule will be maintained:

Project Administration

1. Weekly team meetings and conference calls will be held to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Coordinator, and will include the Regional Program Manager, Training Coordinator,

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SMEs, and AEP leadership, as needed based on the requirements and stage of implementation.
2. Routine calls and communication will be held with DTRA CBEP regional leadership and Metabiota to provide routine status updates and ensure project implementation expectations are met.

Project Reporting

1. Weekly status reports will be provided by the Program Manager to senior Metabiota leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction, as needed to ensure project goals are met.

Monitoring and Controlling:

1. Routine risk assessment will be performed internally among the Metabiota project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with DTRA CBEP regional leadership to ensure the project remains on track and is implemented according to standard.
3. Routine oversight and coordination will be performed to ensure stakeholders are performing in-country requirements to ensure successful execution of this activity. Monitoring will include both administrative and fiscal oversight when appropriate.

Completion

Metabiota will drive the project to completion in a timely manner by maintaining a focused project schedule with routine meetings and communication with DTRA CBEP regional leadership. This will allow for continued coordination, while maintaining targeted objectives. As the activity progresses, Metabiota will provide all required deliverables and after action reports to allow for lessons learned and continuation of solid execution and implementation of activities. Metabiota believes that the experience and management it will bring to this project, in collaboration with DTRA CBEP will guarantee success.

Cost Management

The Metabiota team and all collaborators will maintain an acute focus on cost management to ensure that project deliverables are met at a reasonable cost. Metabiota will provide full oversight of all partners to ensure accurate and responsive financial reporting and will facilitate cost savings to the Government wherever possible. Metabiota will follow procurement regulations ensuring the best price is received under the time constraints using all means available.

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Budget Narrative

Period of Performance

The Period of Performance for this effort is May 16, 2015 to March 31, 2016.

Labor

Costs for direct labor to support this activity is required for the following personnel:

- Metabiota Program Manager: The Metabiota PM, (b)(6), will oversee the execution of program objectives towards the completion of DTRA CBEP goals at the regional level, and will lead communication with DTRA CBEP for this activity. The PM will do so by maintaining oversight of stakeholder coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other potential DTRA CBEP subcontractors meet all project requirements and deliverables erstwhile ensuring the program remains within scope, budget, and timeline. (b)(6) who assumed this role on July, 7 2015, took over responsibilities from (b)(6) and was briefed comprehensively on the project's status and progress. He will be responsible for ensuring efficiency and effectiveness of hours assigned and for preventing any duplication of effort on this project.
- Metabiota Project Coordinator (Trainer I): The Metabiota PC, (b)(6) will ensure the execution of project objectives towards the completion of DTRA CBEP goals at the project level. The PC will do so by managing stakeholder coordination and project execution, with a focus on project milestone achievement and stakeholder buy-in development and maintenance. The PC will regularly communicate project status with the Metabiota PM, and will assist the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will also assist the PM in ensuring all project requirements and deliverables are fulfilled while concurrently ensuring the project remains within scope, budget, and timeline (b)(6) (b)(6) will remain active in this capacity throughout the period of performance and will ensure that no duplication of effort occurs within her scope.
- Metabiota SME II – Epidemiologist, (b)(6) will assist in the coordination with DTRA CBEP and key SA stakeholders, to obtain understanding of training objectives and requirements in SA, conduct comprehensive review of existing materials, assist in development of training landscape review, provide recommendations for revisions of existing material or for additional material content, and provide necessary scientific/technical support to facilitate approval of OHE training in SA. (b)(6) was involved in very early project activities and is well aware of all accomplishments and activities to date. Moving forward, she will remain active in the SME II capacity throughout the period of performance and will ensure that no duplication of effort occurs within her scope.
- Metabiota Trainer III-Training Coordinator, (b)(6) will ensure effective development of the technical and cost proposal for this project specifically with

The information contained herein is Metabiota PROPRIETARY information and may include Metabiota CONFIDENTIAL information and shall not be disclosed outside of the U.S. Government, as per the statement found on the cover page.

regard to training scheduling and execution. (b)(6) is responsible for aiding in the development of the technical proposal and will not be involved in any aspect of the project from 08/01/2015 and beyond.

- As needed. Metabiota SME III or Trainer II – Based on communications with key stakeholders and the training objectives or requirements identified in SA, the expertise of either a clinician or a secondary Metabiota epidemiologist (b)(6) will be engaged for this activity to assist in conducting comprehensive review of existing materials, assist in development of training landscape review, and provide recommendations for training strategies or revisions and additions to training material. The hours budgeted for these two positions assume a scenario where stakeholders indicate a significant need for additional expertise in assessing materials and training landscape, and facilitating host country approval of materials. Of note, (b)(6) has been involved in the One Health Epidemiology training in Uganda and may provide additional consistency from an integration standpoint. Hours proposed for these labor categories are based on a best estimate for effectively and efficiently executing the requirements. Should these hours not be required for this project, the government will not be billed for them.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials

Materials and supplies are required to support project activities including stakeholder outreach and coordination, training material production, and host country approval facilitation. Materials will need to be procured in country by Metabiota staff. These items will be used to facilitate final modifications to training documents, and will allow for effective communication while promoting operational safety. These items will include:

- Office supplies to support the facilitation of final training modifications
  -Writing tools
  -Stationary
  -Folders
  -General presentation support materials
- Printing services to ensure the effective communication during facilitation of final training modifications
  -Printing of sample training materials
  -Printing of materials for presentation to working groups
- Local cellular communication to ensure safety and logistical success for the in country team:
  -Local SIM Cards from in country provider
  -Credit for local calls from in country provider
- Internet usage tools to ensure capacity for consistent communication with US based stakeholders.

The information contained herein is Metabiota PROPRIETARY information and may include Metabiota CONFIDENTIAL information and shall not be disclosed outside of the U.S. Government, as per the statement found on the cover page.

-Internet and data usage credit from in country provider

Costs have been estimated based on previous travel and work in the region.

Other Direct Costs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. Metabiota personnel performing on this project are already insured.

Travel

Funds are requested for three Metabiota staff to travel to South Africa to facilitate final modifications to training materials. Metabiota staff will support project implementation, coordinate stakeholders, and provide technical support for obtaining host country OHE training approval to the key South African stakeholders.

Conclusion

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP AFRICOM in the implementation of Review and tailor of WRAIR OHE Modules One and Two training materials. Metabiota will ensure, through strong project management and risk mitigation that the training will be executed in an efficient and timely manner delivering a top quality course geared to support enhanced biosurveillance and biosafety efforts in the region.

The information contained herein is Metabiota PROPRIETARY information and may include Metabiota CONFIDENTIAL information and shall not be disclosed outside of the U.S. Government, as per the statement found on the cover page.

Appendix A - Team Metabiota Overview

Metabiota is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science, including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in 20 countries and offices in San Francisco, Washington, China, Canada, and Sierra Leone.

Metabiota currently supports a number of Defense Threat Reduction Agency's Cooperative Biological Engagement Program (DTRA CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. Metabiota's mission aligns well with CBEP and the entire Metabiota team is focused on supporting our USG Partners in reducing the risk of biological threats worldwide, and employs a collaborative and agile approach to biological risk reduction.

To ensure a successful event, Metabiota, in coordination with DTRA CBEP regional leadership and in country partners have built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGO) whose respective aims could impact DTRA CBEP objectives.

This material shall not be disclosed outside the U.S Government and shall not be duplicated, used or disclosed in a whole or in part for any purpose other than to evaluate this material. If, however, a contract is awarded to this offeror as a result of- or in connection with- the submission of this material, the U.S Government shall have the right to duplicate, use or disclose the data to the extent provided in the resulting contract. This restriction does not limit the U.S Government's right to use information contained in this material if it is obtained from another source without restriction.

TD 011 Ukraine TADR Activity Project 4 (TAP-4)

Objectives

The overarching focus of TAP-4 is to establish and standardize a regional alliance between several CBEP partner countries within Eastern Europe to raise awareness to and provide education on ASF.

Period of Performance: 05/16/2015 - 01/31/2015

CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$111,733.00	$38,283.07	$73,449.93
1003	$105.27	$0.00	$105.27
1004	$2,768.39	$0.00	$2,768.39
1005	$16,462.50	$8,122.49	$8,340.01
TOTAL	$131,069.16	$46,405.56	$84,663.60

CLIN 1002 – Labor

The primary labor costs for TAP-4 have been subject matter expertise in the form of two Trainer 2's from SAFOSO AG. The SAFOSO trainers implemented the 3rd training workshop in Lviv, Ukraine for the regional African swine fever (ASF) outreach program involving Armenia, Georgia, Kazakhstan, and Ukraine. The SAFOSO trainers also implemented a training-of-trainers in Kyiv, Ukraine, specific to the Ukrainian veterinary community. Additionally, PM and PC costs have been incurred in finalizing the SAFOSO subcontract under the T&M mechanism, managing requests from the Ukrainian participants, and in preparing for the final workshop to be held in Tbilisi, Georgia in November.

Program Manager: 64.5 Hours

Dennis Lee led proposal development, including the development of the overall project budget and the drafting of text for both the technical and management approaches. He oversaw subcontract development to include editing of SOW and ensuring progress through Metabiota's contracts shop as well as project activities, including communication with BTRIC personnel integrating efforts with the Ukrainian veterinarians.

Trainer 1: 23 Hours

(b)(6) was responsible for assisting with proposal development, to include the drafting of text for both the technical and management approaches, and assisting with ensuring CDRLs such as Training Event Plans, Travel Authorization Requests, and more are delivered in a timely fashion. She Participated in calls with DTRA/A&AS to assist PM in ensuring all relevant information was delivered.

Trainer 2: 155 hours

SAFOSO trainers (b)(6) ed the development of workshop agendas and coordination of the various country participants in developing tailored training materials for use in each country's respective outreach efforts. They also developed the Ukraine-specific workshop where a training of trainers occurred to teach the Ukrainian veterinary community how to conduct outreach.

CLIN 1003 – Materials and Supplies

No material costs have been incurred.

CLIN 1004 – ODCs
No ODCs were incurred in the T&M period.

CLIN 1005 – Travel
Travel costs were incurred for both Brad Brooks and SAFOSO trainers during the 3rd training workshop in Lviv. The travel costs for SAFOSO have not yet been invoiced; existing travel costs here come from the portion of (b)(6) travel that followed the transition to the T&M.

Metabiota

Invoice:	INV-0000000239	**Invoice End Date**	7/31/15
Invoice Amount	46,405.56	**Invoice Due Date**	2015-10-08
Remit To:		**Bill To:**	
Metabiota, Inc.		Defense Threat Reduction Agency	
1 Sutter Street, Suite 600		8725 John J. Kingman Rd.	
San Francisco		Ft. Belvoir	
CA		VA	
94104		22060-6201	

TD-011 TAP 4

Transaction Project ID	PLC Cd	PLC Desc	Name	Bill Hours	Billing Rate	Amount To Bill	Cumulative Hours	Cumulative Amount
[redacted]								
TOTAL CLIN 1005						8,122.49		8,122.49
TOTAL INVOICE						46,405.56		46,405.56

(b)(4); (b)(6)

(b)(6)

United States

LEOPOLIS

Кімната\Room : 319
Приїзд\Arrival : 18.05.15
Виїзд\Departure : 22.05.15
Стор\Page No. : 1 of 1
Рахунок\Folio No : 51821
Бронь\Conf No : 663523
Касир\Cashier No. : 21
User ID : VBO

INVOICE
A/R Number \ ЄДРПОУ
Company \ Компанія
TA Agent \ Тур. агенція

Дата \ Date	Текст \ Text	Послуги \ Charges UAH	Сплати \ Credits UAH
20.05.15	Lobby Bar - Drinks	3,490.00	
22.05.15	American Express		3,490.00
	Total	**3,490.00**	**3,490.00**

$320.07

Balance	**0.00**	**UAH**
Total incl. taxes	**3,490.00**	**UAH**
Net Amount	**2,769.84**	**UAH**
VAT 20%	**553.97**	**UAH**

I hereby agree to be jointly and severally liable with the person, company or association as may be indicated on this folio for all charges incurred on all accounts of which I may now or hereafter, maintain with the hotel

Цим я даю свою згоду на те, щоб нести особисту та спільну відповідальність з особою, компанією чи товариством, як зазначено у цьому рахунку, за сплату усіх коштів нарахованих за надані послуги або ті послуги які я можу зараз або надалі отримати в готелі.

Постачальник \ Supplier:
Готель "Леополіс" \ Hotel Leopolis
ТзОВ «Ейч Ті Проперті Вест», ЄДРПОУ 35969209
р/р – 26007000009272 в ВАТ «Фольксбанк» - МФО 325213
ІПН - 359692013042, номер свідоцтва 100128959
Є платником податку на прибуток на загальних підставах

Підпис гостя / Guest Signature _____

Райффайзен БАНК АВАЛЬ

CardPay USD v3 :06.5:C
Printe. EMV kernel
Райффайзен Банк Аваль
Готель "Леополіс"
Hotel Leopolis
вул.Б.Б. Ву Театральна, 1
Те ефон +032 295 95 00
22 05 2015 12 55 28
СПЛАТА
AMERICAN EXPRESS
СУМА: 3,490.00ГРН
КЛІЄНТ
КАСИР
034 [illegible]
Зв'т: 479
СОІО Квитанція 3456
Код транз : 514212518417
Код авторизації: 49233
Квитанція касира

ТзОВ " ЕЙЧ ТІ ПРОПЕРТІ ВЕСТ "
м.Львів, вул.Театральна, 16
Готель "ЛЕОПОЛІС"
Рецепція готелю
ІН 359692013042
ЗН 100602210б ФН 1304008844
Каса 31

Номер кімнати: 319
Номер рахунку: 51821
Лобби Бар - Алко оль 3490 0056

Сума 3490.00
ПДВ 20% Б = 20.00% 553.97
Акциз 5% В = 5.00% 166.19

Картка 3490.00
500016874 00033 22.05.2015 12:55
Гарного відпочинку !!!
ФІСКАЛЬНИЙ ЧЕК ДУ

Дякуємо, що об

Thank You For Staying With Us

Leopolis
, 79008 Lviv, Ukraine
) Fax: +380 32 295 95 99
For reservations e-mail: reservations@leopolishotel.com
www.leopolishotel.com

ID 011 Travel 1

(b)(6)

United States

LEOPOLIS

Кімната\Room : 319
Приїзд\Arrival : 18.05.15
Виїзд\Departure : 22.05.15
Стор\Page No. : 1 of 1
Рахунок\Folio No. : 51810
Бронь\Conf. No. : 663523
Касир\Cashier No. : 21
User ID : VBO

INVOICE
A/R Number \ ЄДРПОУ :
Company \ Компанія :
TA Agent \ Тур. агенція :

Дата \ Date	Текст \ Text	Послуги \ Charges UAH	Сплати \ Credits UAH
21.05.15	Accommodation	45,259.18	
21.05.15	City Tourist Tax	319.80	
22.05.15	American Express		45,578.98
	Total	**45,578.98**	**45,578.98**

Balance	**0.00**	**UAH**
Total Incl. taxes	**45,578.98**	**UAH**
Net Amount	**37,716.27**	**UAH**
VAT 20%	**7,542.91**	**UAH**
City Tourist Tax	**319.80**	**UAH**

I hereby agree to be jointly and severally liable with the person, company or association as may be indicated on this folio for all charges incurred on all accounts or which I may now or hereafter, maintain with the hotel

Цим я даю свою згоду на те, щоб нести особисту та спільну відповідальність з особою, компанією чи товариством, як зазначено у цьому рахунку, за сплату усіх коштів нарахованих за надані послуги або ті послуги, які я можу зараз або надалі отримати в готелі.

Постачальник \ Supplier:
Готель "Леополіс" \ Hotel Leopolis
ТзОВ «Ейч Ті Проперті Вест», ЄДРПОУ 35869209
р/р – 26007000009272 в ВАТ «Фольксбанк» - МФО 325213
ІПН - 359692013042, номер свідоцтва 100128959
Є платником податку на прибуток на загальних підставах.

$ 2,278.94

Підпис гостя / Guest Signature _____

Райффайзен БАНК АВАЛЬ

СардРау USD v3.106.500
Ріпіпес РМУ Kernel
Райффайзен Банк Аваль
Готель "Леополіс"
Hotel Leopolis
Львів. вул. Театральна, 16
Телефон: (032)295 95 00
22.05.2015 12:11:19
СПЛАТА
AMERICAN EXPRESS
**** ****** *1253
СУМА: 45,578.98ГРН
БОМРРАЧ 10111 0575
ТВІТ 473 RVS S
0010 КВО ашшя 3479
Код плану 514212420619
Код авторизації 161606
Дякуємо за візит!

Дякуємо, що обрали нас **Thank You For Staying With Us**

Hotel Leopolis
Teatralna street 15, 79008 Lviv, Ukraine
Tel.: +380 32 295 95 00 Fax: +380 32 295 95 99
For reservations e-mail: reservations@leopolishotel.com
www.leopolishotel.com

TD 011 Travel 2A

Holiday Inn

(b)(6)

8757 Georgia Ave Suite 420
Silver Spring Md
Usa 20910
United States

Room No.	:	0221
Arrival	:	14-05-15
Departure	:	18-05-15
Conf. No.	:	60284036
Cashier No.	:	
User ID	:	**KOSHTUK**
Folio No.	:	

INFORMATION INVOICE

(b)(6)

Guest Name
Membership No. :
Group Code :
Company Name :

Page No. : 2 of 2

Date	Description	Debit UAH	Credits UAH
	Total	14,297.47	14,297.47

Balance	0.00 UAH
Total incl. VAT	14,297.47 UAH
Folio amount NET	11,796.59 UAH
VAT 20%	2,382.92 UAH
City Tax 1%	117.96 UAH

$666.13

УКРЕКСІМБАНК

РЕСПОНДЕНТ В ГОТЕЛІ ХОЛІДЕЙ ІНН КІЕВ
ЧЕРВОНОАРМІЙСЬКА 100
ГЕО:

ІД ТЕРМІНАЛА: V8301185
ІД ТОЧКИ : 000896982245-01

ЧЕК 6193
ЗАВЕРШ. РОЗРАХУНКУ
СУМА 14297.47 UAH

УСПІШНО
КОД ВІДПОВІДІ: 00

ЯОТ ВНЕХ *
XXXX XXXX XXXX 253 04/18
BROOKS/BRADFORD
КОД АВТОРИЗАЦІЇ: 527389
НОМЕР ПОСИЛАННЯ: 513401226375
ПОРЯД.НОМЕР: 000097500004542
ДАТА 18/05/2015 ЧАС 05:56:12
ХОСТ:
ДАТА 18/05/15 ЧАС 05:56:08

КЛІЄНТ _____
BROOKS/BRADFORD

КАСИР _____

ДЯКУЄМО

ПАТ "Укрексімбанк" Київське обласне
головне управління "ПРОКРЕДИТ БАНК"
Готель "Холідей Інн Київ"
Holiday Inn Kiev Hotel
Київ, вул. Червоноармійська, 100
Дешевих Н.В.
ІД 14302294 ІН 143022926508
ЗН 0a230f4062 ФН 2650307308
Koshtura Katerina Kasa 03

К.0221 14297.47 А
Послуги готелю

Сума 14297.47
ПДВ А = 20.00% 2382.91
14297.47

Оплата
Mastercard - American Express
000034766 00001 18.05.2015 5:55
ФІСКАЛЬНИЙ ЧЕК ДУ

I agree that my liability for this bill is not waived.

Issued By: **Katerina Koshtura**

Ukraine, 03015, Kyiv
100 Chervonoarmiiska Str.

Doll Travel .28

Holida

(b)(6)
8757 Georgia Ave Suite 420
Silver Spring Md
Usa 20910
United States

INFORMATION INVOICE

Guest Name (b)(6)
Membership No. :
Group Code :
Company Name :

Room No. : 0221
Arrival : 22-05-15
Departure : 27-05-15
Conf. No. : 60287639
Cashier No. :
User ID : MEHENKA
Folio No. :

Date	Description	Debit UAH	Credits UAH
22-05-15	*Accommodation''	2,647.50	
22-05-15	20% VAT	529.50	
22-05-15	Tourist Fee (1%)	26.48	
22-05-15	20% VAT	5.30	
23-05-15	*Accommodation''	2,647.50	
23-05-15	20% VAT	529.50	
23-05-15	Tourist Fee (1%)	26.48	
23-05-15	20% VAT	5.30	
24-05-15	*Accommodation''	2,647.50	
24-05-15	20% VAT	529.50	
24-05-15	Tourist Fee (1%)	26.48	
24-05-15	20% VAT	5.30	
25-05-15	*Accommodation''	2,093.60	
26-05-15	*Accommodation''	2,088.05	
27-05-15	Manual - American Express		12,000.00
27-05-15	Manual - American Express		1,807.99
	Total	13,807.99	13,807.99

Balance	0.00 UAH
Total incl. VAT	13,807.99 UAH
Folio amount NET	11,392.71 UAH
VAT 20%	2,301.34 UAH
City Tax 1%	113.94 UAH

$673.95

TD 011 Travel 2C

Invoice



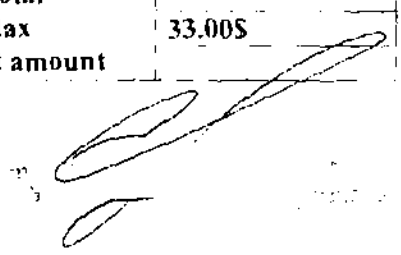
.com

KievApartment Kiev 01001, Ukraine Tarasha Shevchenko Lane 13/21B +38 044 2792763 (65)	Invoice # 270515
Bill To (b)(6) B&V	

Order Details

Qty	Description	Price	Amount
1.	27.05.2015 – trip to KBP airport	720.00 uah.	720.00 uah. 34.10

Total services on this order	Order Total		720.00 uah.
	Charge tax	33.00$	
	Payment amount		720.00 uah.



Doll Travel 3



Invoice

KievApartment
Kiev, Ukraine
13/21B Shevchenko lane, office 401

Invoice #
23012156

Bill To Black@Veach

(b)(6)

Order Details

Qty	Description	Price	Amount
1.	Airport transfer (by AMEX credit card)	740.00 UAH	740.00 UAH

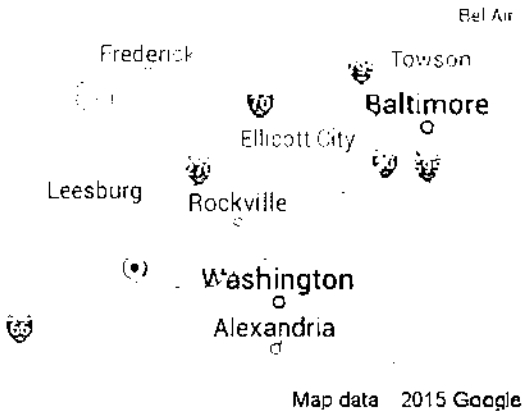
Total services on this order	Order Total		740.00 UAH
	Amount in $	$ 33.00	
	Payment amount		740.00 UAH

-$36.81

TD 011 Travel 4

Subject: Your Wednesday afternoon trip with Uber
Date: Thursday, May 14, 2015 at 11:36:54 AM Eastern Daylight Time
From: Uber Receipts
To: (b)(6)
CC:

$74.89



	1.25
	61.76
	10.88
Subtotal	**$73.89**
	1.00
	$74.89

02:03pm

03:15pm

uberX 58.82 01:12:30

You rode with Tolu

TD 011 Travel 5

6a 158.50
6b 11.87
6c 12.00
182.37

TD11 Travel 6a

Invoice

.com

KievApartment Kiev 01001, Ukraine Tarasha Shevchenko Lane 13/21B +38 044 2792763 (65)	Invoice # 270515
Bill To (b)(6) B&V	

Order Details

Qty	Description	Price	Amount
1.	22.05.2015 – trip from the airport train station	240.00 uah. $11087	240.00 uah.

Total services on this order	Order Total		240.00 uah.
	Charge tax	11.00$	
	Payment amount		240.00 uah.

(b)(6)

TD on Page 66

Invoice

.com

KievApartment
Kiev 01001, Ukraine
Tarasha Shevchenko Lane 13/21B
+38 044 2792763 (65)
Bill To (b)(6) B&V

Invoice # 270515

Order Details

Qty	Description	Price	Amount
1.	22.05.2015 – trip from the airport train station	240.00 uah. $12.00	240.00 uah.
Total services on this order	Order Total		240.00 uah.
	Charge tax	11.00$	
	[redacted]		240.00 uah.

(b)(6)

TD 01 Travel 6 C

TD 011 Ukraine TADR Activity Project 4 (TAP-4)

Objectives

The overarching focus of TAP-4 is to establish and standardize a regional alliance between several CBEP partner countries within Eastern Europe to raise awareness to and provide education on ASF.

Period of Performance: 05/16/2015 - 01/31/2015

CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$111,733.00	$44,274.15	$67,458.86
1003	$105.27		$105.27
1004	$2,768.39		$2,768.39
1005	$16,462.50	$13,413.15	$3,049.35
TOTAL	$131,069.16	$57,687.30	$73,381.87

CLIN 1002 – Labor

Program Manager: 45 Hours

(b)(6) provided program oversight maintaining regular communications with performers and stakeholders. He coordinated Metabiota efforts (both BTRIC and AEP) in preparation for the final workshop in Tbilisi, Georgia, including review and submission of travel authorization requests and CLS forms.

Trainer 1: 35 Hours

(b)(6) completed all requirements to prepare for the final regional workshop in November in Tbilisi, Georgia, including drafting CLS forms and all other travel requirements. She participated in communications with Ukrainian performers and with DTRA/A&AS to assist ensuring final deliverables remain on schedule.

Trainer 2: -27.5 hours

67.5 Hours for (b)(6) were incorrectly invoiced and are therefore being credited back to the government. (b)(6) led the workshop participants from each country, including Ukraine, through the process of developing educational materials (flyers and posters) and developed a survey to attempt to measure the impact of the educational outreach activities. Unfortunately, due to the ongoing ASF outbreak in Ukraine, the actual distribution of materials by the Ukrainians has been impacted. SAFOSO also participated in regular calls with Metabiota, and led the development of the agenda for the final regional workshop.

CLIN 1003 – Materials and Supplies

No costs invoiced.

CLIN 1004 – ODCs

No costs invoiced.

CLIN 1005 – Travel

No costs invoiced

Metabiota

TD-011 TAP 4

CLIN 1002 LABOR

NAME	LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED

(b)(4); (b)(6)

CONCUR | Travel | Expense | Reporting | App Center

Administration | Help

Profile

Manage Expenses | Processor

ASF TAP4 WS in Lviv [Abdullina, Valentyna]

Summary | Details | Receipts | Print | Email

Exceptions

Expense Type	Date	Amount	Exception
Foreign Travel	05/20/2015	UAH 3.03	Code EXPRTRAN Level 1 The transaction date is older than your company allows. Please provide an explanation for why you are now entering this expense
Foreign Travel	05/20/2015	UAH 3.03	Code XRVWARN Level 1 Warning The exchange rate entered has a high variance for this transaction date
Foreign Travel	05/20/2015	UAH 8.29	Code EXPRTRAN Level 1 The transaction date is older than your company allows. Please provide an explanation for why you are now entering this expense

Expenses

View | Summary

Date	Expense Type	Reviewed	Amount	Approved
05/20/2015	Foreign Travel: Other Expenses SKY TRAVEL HOLDINGS LTD	Y	$148.97 UAH 3,035.44	$148.97
05/20/2015	Foreign Travel: Other Expenses SKY TRAVEL HOLDINGS LTD	N	$408.76 UAH 8,293.94	$408.76

Report Summary

Report Totals

Amount Due Company	Am
$0.00	

TOTAL AMOUNT $555.67

TOTAL APPROVED $555.67

train tickets for TAP4 and MB attendees to travel to/from Lviv on 18 and 22 May 2015.

TD#11 # 1 # 2

Travel

HRG

Sky Travel HRG Ukraine

ТОВ "Скай Тревел Холдінг ЛТД"
01004 , м.Київ, вул. Червоноармійська, 9/2
Тел. Тел.: 044 490-65-93 факс.
Sky Travel Holding Ltd
Office 2A, 9/2 Chervonoarmiyska str., Kiev, 01004, Ukraine,
Tel. Тел.: **044 490-65-93 fax.**

Накладна № **1 -003451**
Receipt № **1 -003451**

Company частное лицо / кр.к грн **15.05.15**

№	Denomination of services / Найменування послуг	Qnt / Кіл	Price / Ціна	Total / Всього
1	Залізничні квитки (Brooks Bradford) 22.05.15- Львів Київ № 575-T1-4272769-0505 train ticket Lviv-Kiev	1	446.16	446,16
2	Послуга викупу залізничних квитків (Brooks Bradford) 22.05.15- Львів-Київ № 575-T1-4272769-0505 Service Fee	1	55.00 VAT/НДС 11.00	66.00
3	Bank charge (Brooks Bradford) 22.05.15- Львів-Київ № 575-T1-4272769-0505	1	10,25	10,25
4	Залізничні квитки (Bradford Brooks) 18.05.15- Київ-Львів № A4-N1-4270518-0505 train ticket Kiev-Lviv	1	382.94	382,94
5	Послуга викупу залізничних квитків (Bradford Brooks) 18.05.15- Київ-Львів № A4-N1-4270518-0505 Service Fee	1	55.00 VAT/НДС 11.00	66.00
6	Bank charge (Bradford Brooks) 18.05.15- Київ-Львів № A4-N1-4270518-0505	1	8.98	8,98
7	Залізничні квитки (Thornton Scott) 18.05.15- Київ-Львів № И72-T1-4280370-0505 Train ticket Thornton-Kiev-Lviv	1	382.94	382.94
8	Послуга викупу залізничних квитків (Thornton Scott) 18.05.15- Київ-Львів № И72-T1-4280370-0505 Service Fee	1	55.00 VAT/НДС 11.00	66.00
9	Bank charge (Thornton Scott) 18.05.15- Київ-Львів № И72-T1-4280370-0505	1	8.98	8,98

TD # 1a
Travel

HRG

Sky Travel HRG Ukraine

ТОВ "Скай Тревел Холдінг ЛТД"
01004 , м.Київ, вул. Червоноармійська, 9/2
Тел. Тел.: 044 490-65-93 факс.
Sky Travel Holding Ltd
Office 2A, 9/2 Chervonoarmiyska str., Kiev, 01004, Ukraine,
Tel. Тел.: 044 490-65-93 fax.

Накладна № **1 -003451**
Receipt № **1 -003451**

Company частное лицо / кр.к грн **15.05.15**

№	Denomination of services / Найменування послуг	Qnt / Кіл	Price / Ціна	Total / Всього
1	Залізничні квитки (Brooks Bradford) 22.05.15- Львів-Київ № 575-T1-4272769-0505	1	446.16	446,16
2	Послуга викупу залізничних квитків (Brooks Bradford) 22.05.15- Львів-Київ № 575-T1-4272769-0505	1	55.00 VAT/НДС 11.00	66,00
3	Bank charge (Brooks Bradford) 22.05.15- Львів-Київ № 575-T1-4272769-0505	1	10,25	10,25
4	Залізничні квитки (Bradford Brooks) 18.05.15- Київ-Львів № A4-N1-4270518-0505	1	382,94	382,94
5	Послуга викупу залізничних квитків (Bradford Brooks) 18.05.15- Київ-Львів № A4-N1-4270518-0505	1	55.00 VAT/НДС 11,00	66,00
6	Bank charge (Bradford Brooks) 18.05.15- Київ-Львів № A4-N1-4270518-0505	1	8.98	8,98
7	Залізничні квитки (Thornton Scott) 18.05.15- Київ-Львів № И72-T1-4280370-0505	1	382,94	382,94
8	Послуга викупу залізничних квитків (Thornton Scott) 18.05.15- Київ-Львів № И72-T1-4280370-0505	1	55,00 VAT/НДС 11,00	66,00
9	Bank charge (Thornton Scott) 18.05.15- Київ-Львів № И72-T1-4280370-0505	1	8,98	8,98

Train ticket Thornton – Lviv-Kiev

Train ticket Nevolko – Kiev-Lviv

Train ticket Nevolko – Lviv-Kiev

Train ticket Nychyk – Kiev-Lviv

Train ticket Nychyk – Lviv-Kiev

Train ticket – Mykhaylovska Kiev-Lviv

10	Залізничні квитки (Thornton Scott) 22.05.15- Львів-Київ № ЛБ1-Т1-4281787-0505	1	446,16	446,16
11	Послуга викупу залізничних квитків (Thornton Scott) 22.05.15- Львів-Київ № ЛБ1-Т1-4281787-0505 Service Fee	1	55,00 VAT/НДС 11,00	66,00
12	Bank charge (Thornton Scott) 22.05.15- Львів-Київ № ЛБ1-Т1-4281787-0505	1	10,25	10,25
13	Залізничні квитки (Неволько Олег) 18.05.15- Київ-Львів № ФУ5-Т1-4308744-0505	1	382,94	382,94
14	Послуга викупу залізничних квитків (Неволько Олег) 18.05.15- Київ-Львів № ФУ5-Т1-4308744-0505 Service Fee	1	55,00 VAT/НДС 11,00	66,00
15	Bank charge (Неволько Олег) 18.05.15- Київ-Львів № ФУ5-Т1-4308744-0505	1	8,98	8,98
16	Залізничні квитки (Неволько Олег) 22.05.15- Львів-Київ № 82Я-Т1-4310093-0505	1	446,16	446,16
17	Послуга викупу залізничних квитків (Неволько Олег) 22.05.15- Львів-Київ № 82Я-Т1-4310093-0505 Service Fee	1	55,00 VAT/НДС 11,00	66,00
18	Bank charge (Неволько Олег) 22.05.15- Львів-Київ № 82Я-Т1-4310093-0505	1	10,25	10,25
19	Залізничні квитки (Нычик Сергей) 18.05.15- Київ-Львів № ЮПЯ-Т1-4295407-0505	1	382,94	382,94
20	Послуга викупу залізничних квитків (Нычик Сергей) 18.05.15- Київ-Львів № ЮПЯ-Т1-4295407-0505 Service Fee	1	55,00 VAT/НДС 11,00	66,00
21	Bank charge (Нычик Сергей) 18.05.15- Київ-Львів № ЮПЯ-Т1-4295407-0505	1	8,98	8,98
22	Залізничні квитки (Нычик Сергей) 18.05.15- Львів-Київ № Я7Ц-Т1-4296766-0505	1	446,16	446,16
23	Послуга викупу залізничних квитків (Нычик Сергей) 18.05.15- Львів-Київ № Я7Ц-Т1-4296766-0505 Service Fee	1	55,00 VAT/НДС 11,00	66,00
24	Bank charge (Нычик Сергей) 18.05.15- Львів-Київ № Я7Ц-Т1-4296766-0505	1	10,25	10,25
25	Залізничні квитки (Михайловская Наталья) 18.05.15- Київ-Львів № 168-Т1-4287804-0505	1	382,94	382,94
26	Послуга викупу залізничних квитків (Михайловская Наталья) 18.05.15- Київ-Львів № 168-Т1-4287804-0505 Service Fee	1	55,00 VAT/НДС 11,00	66,00

10	Залізничні квитки (Thornton Scott) 22.05.15- Львів-Київ № ЛБ1-Т1-4281787-0505	1	446,16	446,16
11	Послуга викупу залізничних квитків (Thornton Scott) 22.05.15- Львів-Київ № ЛБ1-Т1-4281787-0505	1	55,00 VAT/НДС 11,00	66,00
12	Bank charge (Thornton Scott) 22.05.15- Львів-Київ № ЛБ1-Т1-4281787-0505	1	10,25	10,25
13	Залізничні квитки (Неволько Олег) 18.05.15- Київ-Львів № ФУ5-Т1-4308744-0505	1	382,94	382,94
14	Послуга викупу залізничних квитків (Неволько Олег) 18.05.15- Київ-Львів № ФУ5-Т1-4308744-0505	1	55,00 VAT/НДС 11,00	66,00
15	Bank charge (Неволько Олег) 18.05.15- Київ-Львів № ФУ5-Т1-4308744-0505	1	8,98	8,98
16	Залізничні квитки (Неволько Олег) 22.05.15- Львів-Київ № 82Я-Т1-4310093-0505	1	446,16	446,16
17	Послуга викупу залізничних квитків (Неволько Олег) 22.05.15- Львів-Київ № 82Я-Т1-4310093-0505	1	55,00 VAT/НДС 11,00	66,00
18	Bank charge (Неволько Олег) 22.05.15- Львів-Київ № 82Я-Т1-4310093-0505	1	10,25	10,25
19	Залізничні квитки (Нычик Сергей) 18.05.15- Київ-Львів № ЮПЯ-Т1-4295407-0505	1	382,94	382,94
20	Послуга викупу залізничних квитків (Нычик Сергей) 18.05.15- Київ-Львів № ЮПЯ-Т1-4295407-0505	1	55,00 VAT/НДС 11,00	66,00
21	Bank charge (Нычик Сергей) 18.05.15- Київ-Львів № ЮПЯ-Т1-4295407-0505	1	8,98	8,98
22	Залізничні квитки (Нычик Сергей) 18.05.15- Львів-Київ № Я7Ц-Т1-4296766-0505	1	446,16	446,16
23	Послуга викупу залізничних квитків (Нычик Сергей) 18.05.15- Львів-Київ № Я7Ц-Т1-4296766-0505	1	55,00 VAT/НДС 11,00	66,00
24	Bank charge (Нычик Сергей) 18.05.15- Львів-Київ № Я7Ц-Т1-4296766-0505	1	10,25	10,25
25	Залізничні квитки (Михайловская Наталья) 18.05.15- Київ-Львів № 168-Т1-4287804-0505	1	382,94	382,94
26	Послуга викупу залізничних квитків (Михайловская Наталья) 18.05.15- Київ-Львів № 168-Т1-4287804-0505	1	55,00 VAT/НДС 11,00	66,00

TD = # 15

Train ticket Mykhaylovska - Lviv-Kiev

Train ticket - Sytiuk - Kiev-Lviv

Train ticket - Sytiuk - Lviv-Kiev

Train ticket - Datsenko - Kiev-Lviv

Train ticket - Datsenko - Lviv-Kiev

TO = # 10

27	Bank charge (Михайловская Наталья) 18.05.15- Київ-Львів № 168-T1-4287804-0505	1	8,98	8,98
28	Залізничні квитки (Михайловская Наталья) 22.05.15- Львів-Київ № Ш6П-T1-4291222-0505	1	446,16	446,16
29	Послуга викупу залізничних квитків (Михайловская Наталья) 22.05.15- Львів-Київ № Ш6П-T1-4291222-0505 Service Fee	1	55,00 VAT/НДС 11,00	66,00
30	Bank charge (Михайловская Наталья) 22.05.15- Львів-Київ № Ш6П-T1-4291222-0505	1	10,25	10,25
31	Залізничні квитки (Сытюк Николай) 18.05.15- Київ-Львів № ЖБУ-T1-4303471-0505	1	382,94	382,94
32	Послуга викупу залізничних квитків (Сытюк Николай) 18.05.15- Київ-Львів № ЖБУ-T1-4303471-0505 Service Fee	1	55,00 VAT/НДС 11,00	66,00
33	Bank charge (Сытюк Николай) 18.05.15- Київ-Львів № ЖБУ-T1-4303471-0505	1	8,98	8,98
34	Залізничні квитки (Сытюк Николай) 22.05.15- Львів-Київ № 746-T14304610-0505	1	446,16	446,16
35	Послуга викупу залізничних квитків (Сытюк Николай) 22.05.15- Львів-Київ № 746-T14304610-0505 Service Fee	1	55,00 VAT/НДС 11,00	66,00
36	Bank charge (Сытюк Николай) 22.05.15- Львів-Київ № 746-T14304610-0505	1	10,25	10,25
37	Залізничні квитки (Даценко Роман) 18.05.15- Київ-Львів № Л55-T1-4312784-0505	1	382,94	382,94
38	Послуга викупу залізничних квитків (Даценко Роман) 18.05.15- Київ-Львів № Л55-T1-4312784-0505 Service Fee	1	55,00 VAT/НДС 11,00	66,00
39	Bank charge (Даценко Роман) 18.05.15- Київ-Львів № Л55-T1-4312784-0505	1	8,98	8,98
40	Залізничні квитки (Даценко Роман) 22.05.15- Львів-Київ № Ж88-T1-4314387-0505	1	446,16	446,16
41	Послуга викупу залізничних квитків (Даценко Роман) 22.05.15- Львів-Київ № Ж88-T1-4314387-0505 Service Fee	1	55,00 VAT/НДС 11,00	66,00
42	Bank charge (Даценко Роман) 22.05.15- Львів-Київ № Ж88-T1-4314387-0505	1	10,25	10,25

27	Bank charge (Михайловская Наталья) 18.05.15- Київ-Львів № 168-T1-4287804-0505	1	8,98	8,98
28	Залізничні квитки (Михайловская Наталья) 22.05.15- Львів-Київ № Ш6П-T1-4291222-0505	1	446,16	446,16
29	Послуга викупу залізничних квитків (Михайловская Наталья) 22.05.15- Львів-Київ № Ш6П-T1-4291222-0505	1	55,00 VAT/НДС 11,00	66,00
30	Bank charge (Михайловская Наталья) 22.05.15- Львів-Київ № Ш6П-T1-4291222-0505	1	10,25	10,25
31	Залізничні квитки (Сытюк Николай) 18.05.15- Київ-Львів № ЖБУ-T1-4303471-0505	1	382,94	382,94
32	Послуга викупу залізничних квитків (Сытюк Николай) 18.05.15- Київ-Львів № ЖБУ-T1-4303471-0505	1	55,00 VAT/НДС 11,00	66,00
33	Bank charge (Сытюк Николай) 18.05.15- Київ-Львів № ЖБУ-T1-4303471-0505	1	8,98	8,98
34	Залізничні квитки (Сытюк Николай) 22.05.15- Львів-Київ № 746-T14304610-0505	1	446,16	446,16
35	Послуга викупу залізничних квитків (Сытюк Николай) 22.05.15- Львів-Київ № 746-T14304610-0505	1	55,00 VAT/НДС 11,00	66,00
36	Bank charge (Сытюк Николай) 22.05.15- Львів-Київ № 746-T14304610-0505	1	10,25	10,25
37	Залізничні квитки (Даценко Роман) 18.05.15- Київ-Львів № Л55-T1-4312784-0505	1	382,94	382,94
38	Послуга викупу залізничних квитків (Даценко Роман) 18.05.15- Київ-Львів № Л55-T1-4312784-0505	1	55,00 VAT/НДС 11,00	66,00
39	Bank charge (Даценко Роман) 18.05.15- Київ-Львів № Л55-T1-4312784-0505	1	8,98	8,98
40	Залізничні квитки (Даценко Роман) 22.05.15- Львів-Київ № Ж88-T1-4314387-0505	1	446,16	446,16
41	Послуга викупу залізничних квитків (Даценко Роман) 22.05.15- Львів-Київ № Ж88-T1-4314387-0505	1	55,00 VAT/НДС 11,00	66,00
42	Bank charge (Даценко Роман) 22.05.15- Львів-Київ № Ж88-T1-4314387-0505	1	10,25	10,25

Train ticket Lychyk-Kiev-Lviv (new)

Train ticket Lychyk-Kiev-Lviv (new)

Train ticket Nevolko-Kiev-Lviv (new)

Train ticket Nevolko-Lviv-Kiev (new)

Train ticket Sytiuk-Lviv-Kiev (new)

Train ticket Datsenko Lviv-Kiev (new)

43	Залізничні квитки (Нычик Сергей) 18.05.15- Київ-Львів № Ж47-Т1-0387977-0705	1	382,94	382,94
44	Послуга викупу залізничних квитків (Нычик Сергей) 18.05.15- Київ-Львів № Ж47-Т1-0387977-0705 Service Fee	1	55,00 VAT/НДС 11,00	66,00
45	Bank charge (Нычик Сергей) 18.05.15- Київ-Львів № Ж47-Т1-0387977-0705	1	8,98	8,98
46	Залізничні квитки (Нычик Сергей) 22.05.15- Львів-Київ № И85-Т1-0389070-0705	1	446,16	446,16
47	Послуга викупу залізничних квитків (Нычик Сергей) 22.05.15- Львів-Київ № И85-Т1-0389070-0705 Service Fee	1	55,00 VAT/НДС 11,00	66,00
48	Bank charge (Нычик Сергей) 22.05.15- Львів-Київ № И85-Т1-0389070-0705	1	10,25	10,25
49	Залізничні квитки (Неволько Олег) 18.05.15- Київ-Львів № ПЖЯ-Т1-0393000-0705	1	382,94	382,94
50	Послуга викупу залізничних квитків (Неволько Олег) 18.05.15- Київ-Львів № ПЖЯ-Т1-0393000-0705	1	55,00 VAT/НДС 11,00	66,00
51	Bank charge (Неволько Олег) 18.05.15- Київ-Львів № ПЖЯ-Т1-0393000-0705	1	8,98	8,98
52	Залізничні квитки (Неволько Олег) 22.05.15- Львів-Київ № 6Ц5-Т1-0394543-0705	1	446,16	446,16
53	Послуга викупу залізничних квитків (Неволько Олег) 22.05.15- Львів-Київ № 6Ц5-Т1-0394543-0705 Service Fee	1	55,00 VAT/НДС 11,00	66,00
54	Bank charge (Неволько Олег) 22.05.15- Львів-Київ № 6Ц5-Т1-0394543-0705	1	10,25	10,25
55	Залізничні квитки (Сытюк Николай) 22.05.15- Львів-Київ № Ц5У-Т1-0399209-0705	1	493,08	493,08
56	Послуга викупу залізничних квитків (Сытюк Николай) 22.05.15- Львів-Київ № Ц5У-Т1-0399209-0705 Service Fee	1	55,00 VAT/НДС 11,00	66,00
57	Bank charge (Сытюк Николай) 22.05.15- Львів-Київ № Ц5У-Т1-0399209-0705	1	11,19	11,19
58	Залізничні квитки (Даценко Роман) 22.05.15- Львів-Київ № Ц5У-Т1-0399209-0705	1	493,08	493,08
59	Послуга викупу залізничних квитків (Даценко Роман) 22.05.15- Львів-Київ № Ц5У-Т1-0399209-0705 Service Fee	1	55,00 VAT/НДС 11,00	66,00

43	Залізничні квитки (Нычик Сергей) 18.05.15- Київ-Львів № Ж47-Т1-0387977-0705	1	382,94	382,94
44	Послуга викупу залізничних квитків (Нычик Сергей) 18.05.15- Київ-Львів № Ж47-Т1-0387977-0705	1	55,00 VAT/НДС 11,00	66,00
45	Bank charge (Нычик Сергей) 18.05.15- Київ-Львів № Ж47-Т1-0387977-0705	1	8,98	8,98
46	Залізничні квитки (Нычик Сергей) 22.05.15- Львів-Київ № И85-Т1-0389070-0705	1	446,16	446,16
47	Послуга викупу залізничних квитків (Нычик Сергей) 22.05.15- Львів-Київ № И85-Т1-0389070-0705	1	55,00 VAT/НДС 11,00	66,00
48	Bank charge (Нычик Сергей) 22.05.15- Львів-Київ № И85-Т1-0389070-0705	1	10,25	10,25
49	Залізничні квитки (Неволько Олег) 18.05.15- Київ-Львів № ПЖЯ-Т1-0393000-0705	1	382,94	382,94
50	Послуга викупу залізничних квитків (Неволько Олег) 18.05.15- Київ-Львів № ПЖЯ-Т1-0393000-0705	1	55,00 VAT/НДС 11,00	66,00
51	Bank charge (Неволько Олег) 18.05.15- Київ-Львів № ПЖЯ-Т1-0393000-0705	1	8,98	8,98
52	Залізничні квитки (Неволько Олег) 22.05.15- Львів-Київ № 6Ц5-Т1-0394543-0705	1	446,16	446,16
53	Послуга викупу залізничних квитків (Неволько Олег) 22.05.15- Львів-Київ № 6Ц5-Т1-0394543-0705	1	55,00 VAT/НДС 11,00	66,00
54	Bank charge (Неволько Олег) 22.05.15- Львів-Київ № 6Ц5-Т1-0394543-0705	1	10,25	10,25
55	Залізничні квитки (Сытюк Николай) 22.05.15- Львів-Київ № Ц5У-Т1-0399209-0705	1	493,08	493,08
56	Послуга викупу залізничних квитків (Сытюк Николай) 22.05.15- Львів-Київ № Ц5У-Т1-0399209-0705	1	55,00 VAT/НДС 11,00	66,00
57	Bank charge (Сытюк Николай) 22.05.15- Львів-Київ № Ц5У-Т1-0399209-0705	1	11,19	11,19
58	Залізничні квитки (Даценко Роман) 22.05.15- Львів-Київ № Ц5У-Т1-0399209-0705	1	493,08	493,08
59	Послуга викупу залізничних квитків (Даценко Роман) 22.05.15- Львів-Київ № Ц5У-Т1-0399209-0705	1	55,00 VAT/НДС 11,00	66,00

Pg # 10

60	Bank charge (Даценко Роман) 22.05.15- Львів-Київ № Ц5У-Т1-0399209-0705	1	11,19	11,19
61	Залізничні квитки (Нычик Сергей) 18.05.15- Київ-Львів № ЮПЯ-Т1-4295407-0505	1	-344,00	-344,00
62	Послуга повернення залізничних квитків (Нычик Сергей) 18.05.15- Київ-Львів № ЮПЯ-Т1-4295407-0505	1	55,00 VAT/НДС 11,00	66,00
63	Залізничні квитки (Нычик Сергей) 22.05.15- Львів-Київ № Я7Ц-Т1-4296766-0505	1	-407,22	-407,22
64	Послуга повернення залізничних квитків (Нычик Сергей) 22.05.15- Львів-Київ № Я7Ц-Т1-4296766-0505	1	55,00 VAT/НДС 11,00	66,00
65	Залізничні квитки (Сытюк Николай) 22.05.15- Львів-Київ № 746-Т14304610-0505	1	-407,22	-407,22
66	Послуга повернення залізничних квитків (Сытюк Николай) 22.05.15- Львів-Київ № 746-Т14304610-0505	1	55,00 VAT/НДС 11,00	66,00
67	Залізничні квитки (Даценко Роман) 22.05.15- Львів-Київ № Ж88-Т1-4314387-0505	1	-407,22	-407,22
68	Послуга повернення залізничних квитків (Даценко Роман) 22.05.15- Львів-Київ № Ж88-Т1-4314387-0505	1	55,00 VAT/НДС 11,00	66,00
69	Залізничні квитки (Неволько Олег) 18.05.15- Київ-Львів № ФУ5-Т1-4308744-0505	1	-344,00	-344,00
70	Послуга повернення залізничних квитків (Неволько Олег) 18.05.15- Київ-Львів № ФУ5-Т1-4308744-0505	1	55,00 VAT/НДС 11,00	66,00
71	Залізничні квитки (Неволько Олег) 22.05.15- Львів-Київ № 82Я-Т1-4310093-0505	1	-407,22	-407,22
72	Послуга повернення залізничних квитків (Неволько Олег) 22.05.15- Львів-Київ № 82Я-Т1-4310093-0505	1	55,00 VAT/НДС 11,00	66,00
73	Залізничні квитки (Ситюк Микола) 18.05.15- Київ-Львів № ЯЖ2-Т1-1568160-1505	1	452,93	452,93
74	Послуга викупу залізничних квитків (Ситюк Микола) 18.05.15- Київ-Львів № ЯЖ2-Т1-1568160-1505	1	55,00 VAT/НДС 11,00	66,00
75	Bank charge (Ситюк Микола) 18.05.15- Київ-Львів № ЯЖ2-Т1-1568160-1505	1	10,38	10,38

60	Bank charge (Даценко Роман) 22.05.15- Львів-Київ № Ц5У-Т1-0399209-0705	1	11,19	11,19
61	Залізничні квитки (Нычик Сергей) 18.05.15- Київ-Львів № ЮПЯ-Т1-4295407-0505	1	-344,00	-344,00
62	Послуга повернення залізничних квитків (Нычик Сергей) 18.05.15- Київ-Львів № ЮПЯ-Т1-4295407-0505	1	55,00 VAT/НДС 11,00	66,00
63	Залізничні квитки (Нычик Сергей) 22.05.15- Львів-Київ № Я7Ц-Т1-4296766-0505	1	-407,22	-407,22
64	Послуга повернення залізничних квитків (Нычик Сергей) 22.05.15- Львів-Київ № Я7Ц-Т1-4296766-0505	1	55,00 VAT/НДС 11,00	66,00
65	Залізничні квитки (Сытюк Николай) 22.05.15- Львів-Київ № 746-Т14304610-0505	1	-407,22	-407,22
66	Послуга повернення залізничних квитків (Сытюк Николай) 22.05.15- Львів-Київ № 746-Т14304610-0505	1	55,00 VAT/НДС 11,00	66,00
67	Залізничні квитки (Даценко Роман) 22.05.15- Львів-Київ № Ж88-Т1-4314387-0505	1	-407,22	-407,22
68	Послуга повернення залізничних квитків (Даценко Роман) 22.05.15- Львів-Київ № Ж88-Т1-4314387-0505	1	55,00 VAT/НДС 11,00	66,00
69	Залізничні квитки (Неволько Олег) 18.05.15- Київ-Львів № ФУ5-Т1-4308744-0505	1	-344,00	-344,00
70	Послуга повернення залізничних квитків (Неволько Олег) 18.05.15- Київ-Львів № ФУ5-Т1-4308744-0505	1	55,00 VAT/НДС 11,00	66,00
71	Залізничні квитки (Неволько Олег) 22.05.15- Львів-Київ № 82Я-Т1-4310093-0505	1	-407,22	-407,22
72	Послуга повернення залізничних квитків (Неволько Олег) 22.05.15- Львів-Київ № 82Я-Т1-4310093-0505	1	55,00 VAT/НДС 11,00	66,00
73	Залізничні квитки (Ситюк Микола) 18.05.15- Київ-Львів № ЯЖ2-Т1-1568160-1505	1	452,93	452,93
74	Послуга викупу залізничних квитків (Ситюк Микола) 18.05.15- Київ-Львів № ЯЖ2-Т1-1568160-1505	1	55,00 VAT/НДС 11,00	66,00
75	Bank charge (Ситюк Микола) 18.05.15- Київ-Львів № ЯЖ2-Т1-1568160-1505	1	10,38	10,38

Paid ticket Return - Kyiv-Lviv

76	Залізничні квитки (Сытюк Николай) 18.05.15- Київ-Львів № ЖБУ-Т1-4303471-0505	1	-344,00	-344,00
77	Послуга повернення залізничних квитків (Сытюк Николай) 18.05.15- Київ-Львів № ЖБУ-Т1-4303471-0505 service fee	1	55,00 VAT/НДС 11,00	66,00
	Total/Разом грн			8 293,94
	ПДВ (VAT)			308,00

Credit card
Кредитна картка

Разом прописом: Вісім тисяч двісті дев'яносто три гривні 94 копійки
Total: Eight thousand two hundred ninety three uah 94 copecks
Sky Travel HRG Ukraine _____
Скай Тревел ЕйчАрДжі Україна

$ 406.76

76	Залізничні квитки (Сытюк Николай) 18.05 15- Київ-Львів № ЖБУ-Т1-4303471-0505	1	-344,00	-344,00
77	Послуга повернення залізничних квитків (Сытюк Николай) 18.05.15- Київ-Львів № ЖБУ-Т1-4303471-0505	1	55,00 VAT/НДС 11,00	66,00
	Total/Разом грн			8 293,94
	ПДВ (VAT)			308,00

Credit card
Кредитна картка

Разом прописом Вісім тисяч двісті дев'яносто три гривні 94 копійки
Total Eight thousand two hundred ninety three uah 94 copecks
Sky Travel HRG Ukraine _____
Скай Тревел ЕйчАрДжі Україна

TO = #14

Райффайзен БАНК АВАЛЬ

CardPay USD v3.105.5
U32 EMV Kernel
Райффайзен Банк Аваль
"SKY TRAVEL"
41,Vozdvizhenska str.
Kiev
Телефон: Tel.№490-65-93
20.05.2015 14:16:46

ОПЛАТА
AMERICAN EXPRESS
**** ****** *1329
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(b)(6) (b)(6) .44ГРН
ПОДПИСЬ
(b)(6)

6118038 10190.040
Отчет:287 AV3.6
0010 Квитанция:4841
Код транз.:514014278391
Код авторизации:142831

Спасибо за визит!

Райффайзен БАНК АВАЛЬ

CardPay USD v3.105.5
U32 EMV Kernel
Райффайзен Банк Аваль
"SKY TRAVEL"
41,Vozdvizhenska str.
Kiev
Телефон: Tel.№490-65-93
20.05.2015 14:16:46

ОПЛАТА
AMERICAN EXPRESS
**** ****** *1329

СУММА: 3.036.44ГРН
(b)(6)

6118038 10190.040
Отчет:287 AV3.6
0010 Квитанция:4841
Код транз.:514014278391
Код авторизации:142831
---квитанция-кассира---

HRG

ТОВ "Скай Тревел Холдінг ЛТД"
01004 , м.Київ, вул. Червоноармійська, 9/2
Тел. Тел.: 044 490-65-93 факс.
Sky Travel Holding Ltd
Office 2A, 9/2 Chervonoarmiyska str., Kiev, 01004, Ukraine,
Tel. Тел.: 044 490-65-93 fax.

Накладна № **1 -003458**
Receipt № **1 -003458**

Company частное лицо / кр.к грн **20.05.15**

№	Denomination of services Найменування послуг	Qnt Кіль	Price Ціна	Total Всього
1	Трансфер по Україні To/From Rail 18 05 2015-22 05 2015 Kiev Group Transfers in Kiev	1	950.00 VAT/НДС 190.00	1 140.00
2	Transfer Serv Fee 18 05 2015-22 05 2015 Kiev Service Fee	1	220.00 VAT/НДС 44.00	264.00
3	Bank charge 18 05 2015-22 05 2015 Kiev	1	35.10 VAT/НДС 7.02	42.12
4	Transfer Dom 18 05 2015-22 05 2015 Lviv Group transfer in Lviv from & to Rail station on 18 & 22 May	1	1 066.67 VAT/НДС 213.33	1 280.00
5	Transfer Serv Fee 18 05 2015-22.05.2015 Lviv Service Fee	1	220.00 VAT/НДС 44.00	264.00
6	Bank charge 18 05 2015-22 05 2015 Lviv	1	38.60 VAT/НДС 7.72	46.32
	Total/Разом грн			3 036,44
	(incl VAT)			506.07

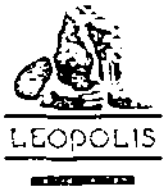
Credit card
Кредитна картка

Разом прописом Три тисяч[illegible] 44 копійки
Total Three thousand thirty s[illegible]
Sky Travel HRG Ukraine

(b)(6)

148.91

TD #2



(b)(6)

United States

Кімната\Room	228
Приїзд\Arrival	18.05.15
Виїзд\Departure	22.05.15
Стор\Page No	1 of 1
Рахунок\Folio No	51848
Бронь\Conf. No	663524
Касир\Cashier No	21
User ID	VBO

INVOICE
A/R Number \ ЕДРПОУ
Company \ Компанія
TA Agent \ Тур. агенція

Дата \ Date	Текст \ Text	Послуги \ Charges UAH	Сплати \ Credits UAH
21.05.15	Accommodation	8,598.40	
21.05.15	City Tourist Tax	70.36	
22.05.15	American Express		8,668.76
	Total	**8,668.76**	**8,668.76**

Balance	**0.00 UAH**
Total incl. taxes	**8,668.76 UAH**
Net Amount	**7,165.39 UAH**
VAT 20%	**1,433.01 UAH**
City Tourist Tax	**70.36 UAH**

I hereby agree to be jointly and severally liable with the person, company or association as may be indicated on this folio for all charges incurred on all accounts or which I may now or hereafter, maintain with the hotel.

Даю я даю свою згоду на те, щоб нести особисту та спільну відповідальність з ... без компанією чи товариством, як зазначено у цьому рахунку, за сплату у їх кошт... нарахованих за надані послуги або ті послуги, які я можу забрати або надати отримати в готелі.

Постачальник \ Supplier:
Готель "Леополіс" \ Hotel Leopol
ТзОВ «Еж Ті Пасіфік Вест», СД
р/р: 26007000006272 в ВАТ «Ф
ІПН: 35956201304? номер свід
Є платником податку на прибуток

Підпис гостя / Guest Signature _____

Сума 866 .76

Дякуємо, що обрали нас — Thank You For Staying With Us

Hotel Leopolis
Teatralna street 15, 79008 Lviv, Ukraine
Tel.: +380 32 295 95 00 Fax: +380 32 295 95 99
For reservations e-mail: reservations@leopolishotel.com
www.leopolishotel.com

TD 11 #3

(b)(6)

8757 Georgia Avenue Office 420
Silver Spring Md
Usa 20910
United States

INVOICE

Guest Name Sa(b)(6)
Membership No :
Group Code :
Company Name :

Room No.
Arrival Сума 11418.19
Departure
Conf. No.
Cashier No.
User ID ФІСКАЛЬНИЙ ЧЕК
Folio No.

Page No.

Date	Description		
10-05-15	Accommodation - Package		
10-05-15	20% VAT		
10-05-15	Tourist Fee (1%)		
10-05-15	20% VAT	4.69	
11-05-15	Accommodation - Package	2,764.36	
11-05-15	20% VAT	468.53	
11-05-15	Tourist Fee (1%)	23.43	
11-05-15	20% VAT	4.69	
12-05-15	Accommodation - Package	4,112.49	
12-05-15	20% VAT	739.32	
12-05-15	Tourist Fee (1%)	36.97	
12-05-15	20% VAT	7.39	
13-05-15	Manual - American Express		11,418.19
	Total	11,418.19	11,418.19

Balance	0.00 UAH
Total incl. VAT	11,418.19 UAH
Folio amount NET	9,431.34 UAH
VAT 20%	1,903.02 UAH
City Tax 1%	83.83 UAH

$433.44

Guest signature:

I have received the goods/or services in the amount shown above. I agree that my liability for this bill is not waived.

SAFOSO

Liebefeld, September 16th, 2015

Invoices@Metabiota.com

INVOICE Nr. 1509-02

Subcontract number 2014-07-DTRA

Invoice Period: 24.04.2015 - 31.08.2015

Project charge code: BTRIC01

Subcontract value: 36'305.00 USD

	Quantity	Unit cost	US$
Hours (project start - May 15th)	45.5	(b)(4); (b)(6)	
Hours (May 16th - August 31st; Marco De Nardi)	76.0		
Hours (May 16th - August 31st; Manon Schuppers)	40.85		
Hours (May 16th - August 31st; Jorge Ferreira)	2.25		
Flight Zurich - Kiev - Zurich			
Train Bern - Zurich airport - Bern			$3782.55
Flight Bologna - Lvov - Bologna			
Taxi to/from Bologna airport			
Per diems (M&IE only; Kyiv)	4		
Per diems (lodging; Kyiv)	3		
Per diems (M&IE only; Lvov)	5		
Per diems (lodging; Lvov)	4		
Total			

Payable within 30 days

The undersigned hereby certifies that the amount being invoiced represents only those amounts properly payable in accordance with the terms and conditions of the Subcontract Agreement and the official financial records.

(b)(6)

Payment instructions by bank transfer:
Bank address: UBS AG, CH-3000 Bern 94;
SWIFT: UBSWCHZH80A
IBAN: CH44 0023 5235 5220 2562 N
attention to: Safoso, Waldeggstrasse 1, CH-3097 Liebefeld, Switzerland

TD 11 #4a
Travel

HRG

Hogg Robinson Switzerland Ltd Altstetterstrasse 124, CH - 8048 Zürich

SAFOSO
SAFE FOOD SOLUTIONS INC
WALDEGGSTRASSE 1
CH - 3097 LIEBEFELD

Hogg Robinson Switzerland Ltd
Altstetterstrasse 124
CH - 8048 Zürich
+41 58 105 60 00
+41 58 105 60 06
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IBAN CH04 0483 5051 5190 0100 0
SWIFT CRESCHZZ80A
MwSt CHE-105.848.093 MWST

Unsere Ref (b)(6)
Dossier 3415304
Ihre Ref. 474398

Rechnungs Nr. 5245265

Zürich, 04.06.2015

Teilnehmer (b)(6)

		Einzelpreis	Betrag	
	UKRAINE INTERNATIONAL AIRLINES, Flugbillett			
	MRS MANON SCHUPPERS			
	Ticket. 0000081915651351	161.00		
	Taxes	162.40	323.40	FE
	PNR-Nummer: QL8J9W			
29.06.2015	ZURICH - KIEV BORISPOL			
03.07.2015	KIEV BORISPOL - ZURICH			
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Abrechnung.				
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04.06.2015	Visa 4857XXXXXXXX3899	CHF	-92.00	
Saldo		CHF	0.00	
Saldo		**CHF**	**0.00**	

MwSt	0% inkl	A0	92.00 =	0.00
MwSt	0% inkl	FE	323.40 =	0.00
Total MwSt. / Unsere MwSt-Nr.: CHE-105.848.093 MWST			**CHF**	**0.00**

Preis- und Programmänderungen bleiben vorbehalten. Für die durch uns vermittelten Einzelleistungen gelten die allgemeinen Hinweise und Bedingungen der genannten Leistungserbringer wie Flug-, Bahn-, Schiffsgesellschaften, Mietwagenfirmen, Hotels etc. Bei Pauschalarrangements gelten die allgemeinen Hinweise und Bedingungen der aufgeführten Reiseveranstalter.

Besten Dank für Ihren geschätzten Auftrag.

USD 438

Digitally signed by Hogg Robinson Switzerland Ltd
Date: 2015.06.04 16:08:30 +02:00
Reason: Accounting Document
Location: Zurich

TD #11 #46

GULTIG: 29.06.201 08.07.2015

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BERN

ZÜRICH FLUGHAFEN

VIA OLTEN-ZÜRICH

ARTIKEL-NR 000125

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268 142471 29061021 CHF 55.00

07000 INKL. 08.00% MWST/SBB VIS

USD 58

TD 11 #4c

HRG

HRG Switzerland

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SWIFT CRESCHZZ80A
MwSt CHE-106.848.093 MWST

Unsere Ref: (b)(6)
Dossier:
Ihre Ref: 474398

Rechnungs Nr. 5206878

Zürich, 01.05.2015

Teilnehmer (b)(6)

		Einzelpreis	Betrag	
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	(b)(6)			
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18.05.2015	VIENNA - LVOV			
22.05.2015	LVOV - VIENNA			
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Saldo		**CHF**	**0.00**	

MwSt	0% inkl.	A0	92.00 =	0.00
MwSt	0% inkl.	FE	810.00 =	0.00
Total MwSt. / Unsere MwSt-Nr.: CHE-106.848.093 MWST			**CHF**	**0.00**

Preis- und Programmänderungen bleiben vorbehalten. Für die durch uns vermittelten Einzelleistungen gelten die allgemeinen Hinweise und Bedingungen der genannten Leistungserbringer wie Flug-, Bahn-, Schiffsgesellschaften, Mietwagenfirmen, Hotels etc. Bei Pauschalarrangements gelten die allgemeinen Hinweise und Bedingungen der aufgeführten Reiseveranstalter.

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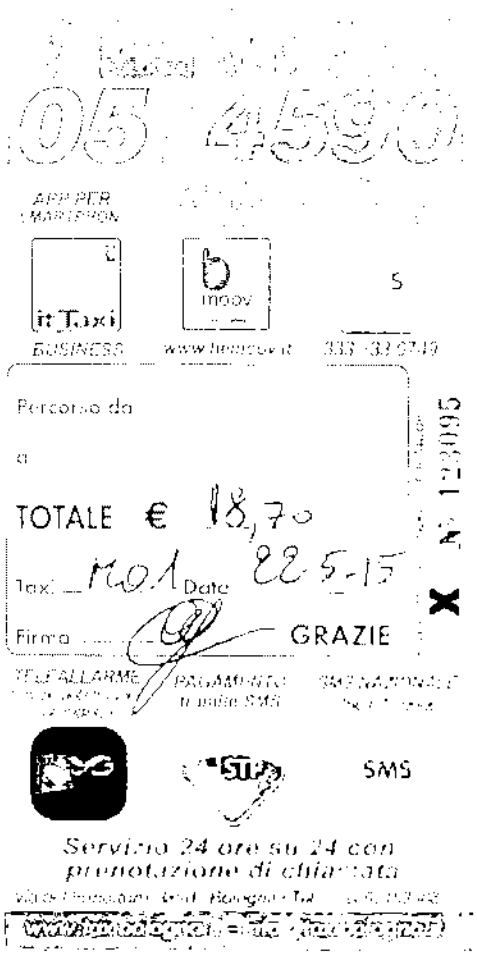
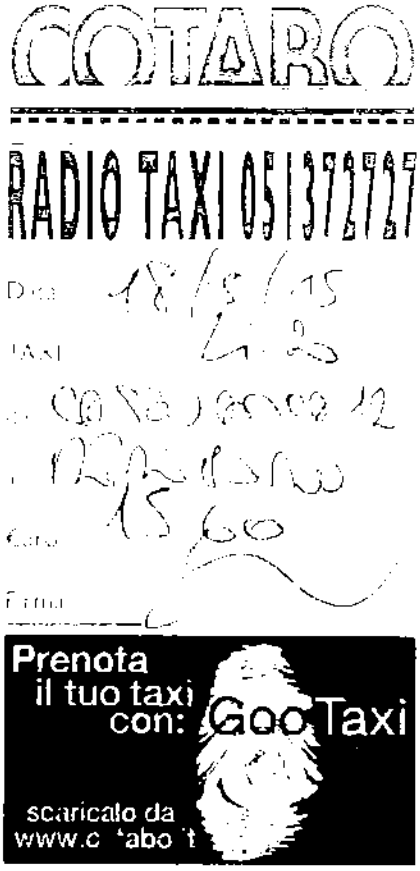
USD 951.10

TD 11 #4d





USD 37.45

Td 11 #4e

(b)(6)

Timeline

	4/12/2015 Sunday	4/13/2015 Monday	4/14/2015 Tuesday	4/15/2015 Wednesday	4/16/2015 Thursday	4/17/2015 Friday	4/18/2015 Saturday	
	Left US for Ukraine	Arrived to Kyiv	Kyiv	Kyiv	Kyiv	Kyiv	Kyiv	
Per diem Rate	98.25	131 Holiday Inn-Kyiv	131 Holiday Inn-Kyiv	131 Holiday Inn-Kyiv	131 Holiday Inn-Kyiv	131 Holiday Inn-Kyiv	131 Holiday Inn-Kyiv	884.25

	4/19/2015 Sunday	4/20/2015 Monday	4/21/2015 Tuesday	4/22/2015 Wednesday	4/23/2015 Thursday	4/24/2015 Friday	4/25/2015 Saturday	
	Kyiv	Drive to Lviv	Lviv	Lviv	Drive to Uzhgorod	Uzhgorod, drive to Kyiv	Kyiv	
Per diem Rate	131 Holiday Inn-Kyiv	97 Holiday Inn-Kyiv	97 Holiday Inn-Kyiv	97 Holiday Inn-Kyiv	97 Holiday Inn-Kyiv	131 Holiday Inn-Kyiv	131 Holiday Inn-Kyiv	781

	4/26/2015 Sunday	4/27/2015 Monday	4/28/2015 Tuesday	4/29/2015 Wednesday	4/30/2015 Thursday	(b)(6)	5/9/15 Saturday	
	Drive to Ternopil	Ternopil, drive to Vinnytsia	Vinnytsia, drive to Kiev	Kyiv	Kyiv- Back to US		US-Back to Kyiv	
Per diem Rate	97	97	131	131	98.25		98.25	652.5

Holiday Inn-Kyiv	Holiday Inn-Kyiv	Holiday Inn-Kyiv	Holiday Inn-Kyiv				
5/10/15 Sunday	5/11/15 Monday	5/12/15 Tuesday	5/13/153 Wednesday	5/14/15 Thursday	5/15/15 Friday	5/16/15 Saturday	
Kyiv	Kyiv	Kyiv	Train to Dnipropetrovsk	Dnipropetrovsk	Dnipropetrovsk, train to Kyiv	Kyiv	
131 Holiday Inn-Kyiv	131 Holiday Inn-Kyiv	131 Holiday Inn-Kyiv	97	97	131 Holiday Inn-Kyiv	131 Holiday Inn-Kyiv	849
5/17/2015 Sunday	5/18/2015 Monday	5/19/2015 Tuesday	5/20/2015 Wednesday	5/21/2015 Thursday	5/22/2015 Friday	5/23/2015 Saturday	
Kyiv	Train to Lviv TAP-4	Lviv TAP-4	Lviv TAP-4	Lviv TAP-4	Train to Kyiv-TAP-4	Kyiv	
131 Holiday Inn-Kyiv	97 Leopolis Hotel	97 Leopolis Hotel	97 Leopolis Hotel	97 Leopolis Hotel	131 Holiday Inn-Kyiv	111 Holiday Inn-Kyiv	761
5/24/2015 Sunday	5/25/2015 Monday	5/26/2015 Tuesday	5/27/2015 Wednesday	5/28/2015 Thursday	5/29/2015 Friday		
Kyiv	Kyiv	Kyiv	Kyiv	Kyiv	Kyiv- Fly back to US		
111 Holiday Inn-Kyiv	111 Holiday Inn-Kyiv	111 Holiday Inn-Kyiv	111 Holiday Inn-Kyiv	111 Holiday Inn-Kyiv	98.25		653.25

Total	4581	Total
		AEP(TAP4
	-519	workshop)
	4062	BTRIC

Country Name	Post Name	Season Begin	Season End	Maximum Lodging Rate	M & IE Rate	Maximum Per Diem Rate
UKRAINE	Kharkiv	1-Jan	31-Dec	152	95	247
UKRAINE	Kyiv	1-Jan	31-Dec	243	131	374
UKRAINE	Other	1-Jan	31-Dec	140	97	237

OPTION YEAR - SOW Section 4.3, Task 6 Community Outreach to Support Understanding

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: June 16, 2015
PERIOD OF PERFORMANCE: 16 May 2015 - 31 January 2016
PROJECT: TAP-4

oaded based on rate card).	LOE Hours		Amount
Program Manager	252	$	35,012.88
CLIN 1002 - Trainer I	252	$	31,860.36
CLIN 1002 - Trainer II	204	$	34,763.64
Total Labor Costs (fully loaded):	**708**	**$**	**101,636.88**
OTHER DIRECT COSTS *(fully loaded):*			
CLIN 1003 Materials		$	105.27
CLIN 1004 ODCs		$	2,768.39
CLIN 1005 Travel		$	12,369.00
Total Other Direct Costs (fully loaded):		**$**	**15,242.66**
Total:		**$**	**116,879.54**

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 16-Jun-15
Project TAP-4
Period of Performance: 16 May 2015 - 31 January 2016

CLIN No.	Labor Description	Cost	Total Hours	Total Billable
CLIN 1002	Program Manager			
CLIN 1002	Trainer I			
CLIN 1002	Trainer II			

(b)(4) (b)(6)

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 16-Jun-15
Project ITAP-1
Period of Performance: 16 May 2015 - 31 January 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1003	office supplies (paper, toner, etc.	$ 100.00	1	100
CLIN 1003				-
CLIN 1003				-
CLIN 1003				-
CLIN 1003				-
CLIN 1003				-
		Sub-Total		100
			SMI 5.27%	5
			Fully Loaded	105

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 16-Jun-15
Project ITAP-1
Period of Performance: 16 May 2015 - 31 January 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1004	DBA Insurance	$ 2,120.07	1	2,120
		Sub-Total		2,120
			G&A 30.58%	648
			Fully Loaded Amnt:	2,768

TRAVEL ESTIMATE COST

Contract Name: Academic Engagement Partnership Program
Contract Number: HDTRA1-14-C-0104
Date Prepared: 16-Jun-15
Proposal: TAP-4
Period of Performance: 16 May 2015 - 31 January 2016

USG Foreign Per Diem Rates		
Location	**Maximum Lodging**	**M&IE**
Yaounde, Cameroon	236	105
	International	International
Traveler:	Program Manager	Project Coordinator
Departure Location:	Washington, DC	Kiev, Ukraine
Destination:	Tbilisi, Georgia	Tbilisi, Georgia
Purpose:	Manage and implement in-person training event	Manage and implement in-person training event
Airfare		

(b)(4); (b)(6)

(b)(4); (b)(6)

(b)(4); (b)(6)

$12,369

#	DTRA Comment	Metabiota Response	Location
1	**Travel - There is a discrepancy between the technical proposal and the budget regarding the number of people required to travel to Georgia for the Summary Workshop. The proposal identifies two Metabiota personnel, but the budget includes the Project Coordinator as a third person. Given that previous workshops for this project have been successfully completed with two Metabiota personnel, the addition of a third person is excessive and should be removed.**	**Number of CONUS personnel traveling to Tbilisi is dropped to 1 (total of 2; 1 from Kyiv).**	**Budget Excel file, tab "Travel - Cost Reimbursable", cell B30 & B14**
2	N/A	SAFOSO Trainers have been lowered to labor category Trainer II from Trainer III. Following conclusion of our subcontract negotiations with SAFOSO (completed after submission of the initial proposal), we realized that though they qualify as Trainer III, we could provide additional cost savings to the government by billing them as Trainer II. DTRA will see this reflected in the invoicing.	Budget Excel file, tab "Labor", cell B14 & D14 Technical Proposal, Budget narrative, Labor

Metabiota's Technical and Cost Proposal

"Community Outreach to Support Understanding of African Swine Fever (ASF) Ecology and Epidemiology in Eastern Europe (EE): Training and Implementation for Methods and Strategies for Control and Prevention (Ukraine TO4 TAP4)"

Technical Direction Number: TD-011
Contract Number: HDTRA1-14-C-0104
CAGE Code: 56SP4
DUNS number: 828131156

Small US Business
Metabiota, Inc.



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Executive Summary

In response to Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) regional leadership tasking via the Academic Engagement Partnership (AEP) contract vehicle, Technical Direction 011, Metabiota, Inc. seeks to support the DTRA CBEP mission by conducting awareness-raising and knowledge enhancement activities regarding African Swine Fever (ASF) in Ukraine as part of a broader regional ASF engagement effort between Ukraine, Armenia, Georgia, and Kazakhstan. These proposed efforts will focus on development and enhancement of disease prevention, detection, surveillance and response capacity within Ukraine, while concurrently facilitating cooperative research and scientific engagement in the greater region in support of the DTRA CBEP mission.

Through this activity, Metabiota will engage with SAFOSO AG, a Swiss consulting company with expertise in veterinary health-related capacity building and training efforts, Ukrainian subject matter experts (SME), and other local and regional stakeholders in order to direct technical support in the development and implementation of public awareness initiatives, including risk assessments and mitigation strategies to reduce the threat of ASF in domestic and wild swine populations.

This document outlines the approach that Metabiota will employ to accomplish the requirement. In short, Metabiota intends to:

1. Facilitate the rollout and observe an independent outreach teaching exercises program conducted by Ukrainian SMEs for laymen that have regular contact with swine populations in order for them to recognize clinical and epidemiological patterns of ASF.
2. Support the expansion of in-country understanding of common sources and routes of ASF exposure, preventative measures, economic impacts of ASF, how to recognize symptoms, and how to respond to suspected cases.
3. Support Ukrainian stakeholder engagement with regional research scientists and other biological risk management stakeholders through cooperative pursuits and enhancing host-nation capacity to conduct disease surveillance and response.

Project Overview

Background

Especially dangerous pathogens in agriculture are a challenge for animal health and food security infrastructures and pose a significant threat to security and economic stability across the globe. To manage these threats, DTRA CBEP aims to reduce potential impacts of agricultural biological threats by enhancing biological safety and security (BS&S), awareness of biological risks, and knowledge related to biological pathogens globally.

To do so, DTRA CBEP works collaboratively with partner nations, other USG agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health; promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and

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secure facilities in a sustainable manner. In Eastern Europe and Central Asia, specifically, DTRA CBEP seeks to increase regional collaboration on topics critical to biological threat reduction and enhance the regional capacity to perform biorisk management and mitigate the threat of infectious disease events.

Since emerging in the region, many ASF cases have occurred in pig farms along shared boundaries. Although surveillance of wild boars and commercial pigs for ASF is ongoing, reemergence and spread of the disease remains a threat to commercial swine populations through interactions of wild boar with domestic swine raised within small private farms or backyards, uncontrolled movement of domestic pigs and, swill feeding. As Former Soviet Union (Eastern European - EE) countries serve as geographical land barriers between the Russian Federation, where ASF is endemic, and Western Europe and Asia, raising awareness among swine farmers, veterinarians, and other key personnel is an integral component in preventing the spread of this disease.

TAP-4 was originally developed under the Biological Threat Reduction Integrating Contract (BTRIC) mechanism in 2013. However, this funding mechanism, including all ongoing research efforts, ceased February 2014. In an effort to complete the final TAP-4 stages and meet previously identified goals and objectives, DTRA CBEP tasked Metabiota with implementing TAP-4 in Ukraine to raise awareness and enhance local ASF knowledge, and to aid the establishment and standardization of a regional alliance between several DTRA CBEP EE partner countries.

In support of this approach, Metabiota intends to provide administrative and technical support for the rollout of an independent outreach teaching exercise program conducted by Ukrainian SMEs, in addition to supporting a regional workshop designed to increase collaboration on topics critical to biological threat reduction, and enhancing the regional capacity to perform biorisk management and mitigate the threat of infectious disease events. The teams on-the-ground experience and decades of expertise makes us well positioned to support the implementation of these and associated activities, as well as scientific engagement in Ukraine and the other engaged countries.

Goals and Objectives

This activity aims to provide DTRA CBEP partners in Ukraine with support to manage the risk of further spread of ASF within its and its regional counterparts' borders. The delivery of these requirements will cultivate continued knowledge enhancement throughout Ukraine and expanded in-country and regional disease surveillance and control capacities.

To achieve this purpose, Metabiota and their collaborative partners will:

- Identify and educate those persons who work with swine to recognize clinical and epidemiological patterns of ASF including farmers, hunters, and wild fauna management as well as those engaged in the commercial pork supply chain; Engage project collaborators from Armenia, Georgia, Kazakhstan, and Ukraine, who

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will collaboratively develop strategies for enhancing ASF public awareness in their respective countries;
- Employ a Regional Joint ASF Working Group that will oversee development and implementation of project objectives;
- Foster fellowship between project participants through achievement of a common goal that illuminates shared interests, concerns, and challenges, providing a basis upon which to increase the capacity for future collaborative pursuits.

Impact

Through the implementation of Metabiota-facilitated ASF trainings in Ukraine and the establishment of a regional ASF alliance between CBEP EE partner countries, DTRA CBEP will have:
- Developed and enhanced disease surveillance systems targeting pathogens of security concern (ASF) and built upon regional detection and response capabilities;
- Supported collaborative awareness efforts in the region and foster collaborative scientific research by providing funding and infrastructure to key stakeholders.

This activity will provide a measurable and achievable result in raising awareness of ASF among DTRA CBEP EE partner countries and facilitating efforts in Ukraine to formally educate those who play a pivotal role in the prevention of ASF. Moreover, this activity will concurrently promote a sub-regional network of strategic collaborators and developing a sustainable infrastructure for advancing scientific research, including early detection of emergent threats.

Risk Management

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Schedule						
Project Coordination	Each regional workshop requires coordination of several entities in a timely fashion in order to have a successful event.	3	3	Medium	Establish and hold regular calls with all stakeholders as final workshop dates grow nearer.	(b)(4); (b)(6)
Performance						
Political Instability	Ukraine's current political situation may lead to risks of being unable to safely complete in-country work, especially in eastern Ukraine.	4	4	(b)(4); (b)(6)	Metabiota has in-country personnel knowledgeable of the operating environment, and will coordinate closely with trainees to focus on safer areas of the country.	Med

Implementation Plan

Introduction

Metabiota will employ its existing organizational leadership to interface with the Regional Science Manager and Regional Program Manager, and Country Manager to direct the operational and administrative support required to ensure implementation of ASF Community Awareness Trainings and Regional Collaboration. Our Program Manager will oversee these activities, with the support of both CONUS and OCONUS Metabiota staff to ensure that all

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aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Communications Protocols

Metabiota will maintain open communications with international collaborators necessary for implementing the training, to include regional partners facilitating the training engagement and logistics. In addition, Metabiota will maintain routine communication with CBEP to ensure they have full visibility on the training engagement, status and process of execution.

Technical Approach

As this project is an ongoing effort, the technical approach outlined below covers only the highlights of the activities to be conducted for the portion of the project's period of performance that lies in the Metabiota AEP Option Year (16 May 2015 onward). A full description of project activities can be found in the previously approved Form A.

Phases of Technical Approach

Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project phases and to provide overall feedback and reporting on the proceedings outlining the accomplishment of objectives. The following phases are required for this project:

Phase 1: Regional Meeting #3: Training Workshop 2, Lviv, Ukraine
Phase 2: Independent Outreach Teaching Exercises Rollout and Observation
Phase 3: Regional Meeting #4, Summary Workshop, Tbilisi, Georgia
Phase 4: Summary Report Development

Phase 1 – Regional Meeting #3: Training Workshop 2; Lviv, Ukraine, May 18 – 22

Objective: Build on the accomplishments from Regional Meeting #1 (Kick Off Meeting: Yerevan, Armenia) and #2 (Training Workshop 1: Almaty, Kazakhstan) to continue adaptation of materials for country specific distribution.

Process: Metabiota, in coordination with DTRA CBEP and CLS, will provide Ukrainian SMEs with support to participate in a collaborative workshop with representatives from the other countries involved, conducted and observed by SAFOSO under the direction of Metabiota contractual agreements. The second training workshop will build off of the first training workshop, and, include adaptation of materials for country specific distribution, define the approach for education and distribution based on country specific infrastructure and policy. It will also include discussions lead by each country on current diagnostics and response procedures (if any) and potential improvements). The benefits to including all stakeholders in this training stage is to get an understanding of the strengths and weaknesses of implementation in each country and lessons that may be applied to country specific approaches.

Deliverables:

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- Deliverable 1: Adapted materials and a strategy for SME Training-of-Trainer (ToT) training to be conducted in each country.

Phase 2 – Independent Outreach Teaching Exercises (June 29 – early November)
Objective: Facilitate technical support and observation of an outreach teaching exercise program conducted by Ukrainian SMEs for laymen that have regular contact with swine populations in order for them to recognize clinical and epidemiological patterns of ASF.

Process: Metabiota, in coordination with DTRA CBEP, will provide four Ukrainian SMEs with support to participate in a ToT program, conducted and observed by SAFOSO under the direction of Metabiota contractual agreements. At the conclusion of these ToT activities, Ukrainian SMEs will initiate community outreach teaching exercises, targeting known ASF risk areas, by identifying and educating those persons who work with swine to recognize clinical and epidemiological patterns of ASF including farmers, hunters, and wild fauna management as well as those engaged in the commercial pork supply chain.

During Regional Meeting #2 (Almaty, Kazakhstan), it was determined that Oblast-level veterinarians would be the optimal recipients for the initial ToT event, which will take place in Kiev, Ukraine and under the supervision of SAFOSO. Oblast Veterinarians will be educated on: signs and symptoms of ASF, diagnostics, reporting, epidemiology, and economic impact. Additionally, Oblast Veterinarians will be provided fliers and posters, which have been tailored for use in Ukraine, to take back to their respective oblasts. The aforementioned materials will then be incorporated into the day-to-day activities of the Oblast Veterinarians, which include regular visits to villages, small farms, as well as oversight of hunting activities.

Deliverables:

- Deliverable 1: Submission of community outreach target audience criteria, location justifications, and participant lists for each of the 12 trainings (500 training participants max).
- Deliverable 2: Submission of training materials, evaluations, and post-action reports for the conduction of 12 outreach teaching exercises.

Phase 3 – Regional Meeting #4 Summary Workshop; Tbilisi, Georgia, November 2015
Objective: Support Ukrainian stakeholder engagement with regional research scientists and other biological risk management stakeholders through cooperative pursuits and enhancing host-nation capacity to conduct disease surveillance and response, including ASF-specific public awareness programs.

Process: Metabiota, in coordination with DTRA CBEP, will provide four Ukrainian SMEs with support to participate in a three-day summary workshop, taking place in Tbilisi, Georgia. Under the guidance of SAFOSO, the Ukrainian SMEs will present their work, experiences, and shared lessons learned with their regional counterparts implementing sister DTRA CBEP-supported ASF risk management programs.

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Through this workshop, Metabiota aims to support the establishment of a Regional Joint ASF Working Group that will oversee the development and implementation of project objectives. Moreover, Metabiota aims to foster fellowship between various DTRA CBEP project participants through the achievement of a common goal that illuminates shared interests, concerns, and challenges, providing a basis upon which to increase the capacity for future collaborative pursuits.

Deliverables:

- Deliverable 1: Submission of participant lists, indicating role and presentation topics, for the Regional Workshop (#4).
- Deliverable 2: Submission of workshop presentation materials, evaluations, and post-action reports for all travelers.

Phase 4 – Summary Report Development (November 2015 – February 2016)
Objective: Capture processes developed, lessons learned, and overall status of ASF in Ukraine.

Process: The Metabiota team, including SAFOSO, will work jointly with the teams from the sister projects to develop final reports capturing lessons learned and the current status of ASF in Ukraine. These reports may be submitted for publication, in order to pass on the knowledge learned to other countries that may be dealing with ASF, or be presented at an international meeting attended by project collaborators and members of the Regional Joint ASF Working Group.

Deliverables:

- Final report detailing overall processes and lessons learned, possibly for submission to a peer-reviewed journal.
- Progress report on status of ASF in project countries, for presentation internationally.

Management Approach

Project Team Structure

Metabiota's project team will include the AEP program leadership, the Program Manager, Project Coordinator, Travel Coordinator and a team of Research Collaborators and Subject Matter Experts that will be tasked with specific assignments to support the development and implementation of this activity based on their administrative and scientific expertise. This team of experts will ensure the overall project management and tasks associated with the training are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.

Subcontract – SAFOSO

In order to effectively disseminate information and raise public awareness within the scope of this project, Metabiota is seeking support from the larger, European-driven ASF prevention effort known as "Targeted research effort on African swine fever" (ASFORCE). ASFORCE is a consortium of 17 laboratories and organizations from Western Europe and the Russian

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Federation (RF), which was established to combat the spread of ASF and improve ASF research in the region. Within ASFORCE, SAFOSO has conducted multiple ASF workshops to raise ASF awareness within the RF. By leveraging those trainers used in ASFORCE to raise awareness in the EE states, and particularly Ukraine, the use of SAFOSO to conduct this activity may provide information and networking expansion opportunities between the EE states and their Western European counterparts on ASF topics.

Initiation

Prior to initiating any action. Metabiota and DTRA CBEP will secure a clear understanding of the objectives and mission of this undertaking, and make sure all stakeholders agree to it. Following authorization to proceed by DTRA CBEP, Metabiota will move into the planning and execution of the community outreach and regional workshop activities.

Execution

The core project management team will maintain oversight and implementation of the project at all times and will ensure rapid execution of all phases, tracking objectives to ensure the project stays on schedule and within budget to complete this activity. The project will be managed according to the phased implementation plan and will be course corrected, as needed to ensure target end-goals are reached. The following tools will be used to guarantee the project schedule will be maintained:

Project Administration:

1. Weekly team meetings and conference calls will be held to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Coordinator and will include the Program Manager, Training Coordinator, and AEP leadership, as needed based on the requirements and stage of implementation.
2. Routine calls and communication via email will be held with DTRA CBEP regional leadership and Metabiota to provide routine status updates and ensure training implementation.

Project Reporting:

1. Weekly status reports will be provided by the Program Manager to senior Metabiota leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction, as needed to ensure training goals are met.

Monitoring and Controlling

1. Routine risk assessment will be performed internally among the Metabiota project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with DTRA CBEP regional leadership to ensure the project remains on track and is implemented according to standard.

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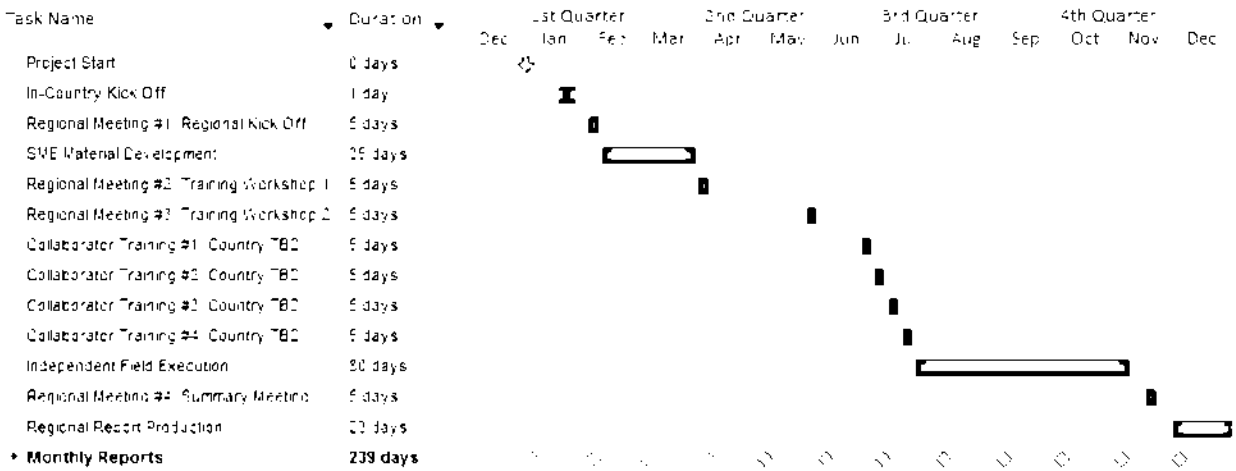
3. Routine oversight and coordination will be performed to ensure SAFOSO is performing all necessary requirements to ensure successful execution of the training. Monitoring will include both administrative and fiscal oversight.

Timeline

The original TAP-4 timeline under the BTRIC mechanism can be found below. As this activity has consistently stayed true to this original schedule, Metabiota will complete Phase 1-4 of this activity as originally planned. beginning with Phase 1- Regional Meeting #3. Phase 2 - In-Country ToT will take the scheduling place of Collaborator Training #1 in the anticipated schedule.



Completion

Metabiota will drive the project to completion in a timely manner by maintaining a focused project schedule with routine meetings and communication with DTRA CBEP regional leadership. This will allow for continued coordination, while maintaining targeted objectives. As the activity progresses, Metabiota will provide all required deliverables and after action reports to allow for lessons learned and continuation of solid execution and implementation of activities. Metabiota believes that the experience and management it will bring to this project, in collaboration with DTRA CBEP will guarantee success.

Cost Management

The Metabiota team and all partners will maintain an acute focus on cost management to ensure that this activity is delivered at a reasonable cost to the government. Our team will provide full oversight of SAFOSO to ensure accurate and responsive financial reporting and will facilitate cost savings wherever possible. Metabiota will follow procurement regulations ensuring the best value is obtained under the time constraints using all means available.

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Budget Narrative

Period of Performance

The Period of Performance for this effort is May 16, 2015 to January 31, 2015.

Labor

Costs for direct labor to support this activity is required for the following personnel:

- Metabiota Program Manager (b)(6) will oversee and execute the project to include management of deliverables, logistics, procurement, tracking of project requirements, and implementation. The program manager will also be responsible for final decision making, coordinating with and reaching consensus with representatives of the sister programs in Armenia, Georgia, and Kazakhstan, and assisting with the drafting of the final deliverable reports.
- Metabiota Trainer I (b)(6) will assist in coordinating project activities, to include assisting in management of deliverables, logistics, procurement, tracking of project requirements, deliverables and logistics. Trainer I will also aid in coordination with representatives of the sister programs in Armenia, Georgia, and Kazakhstan, and assisting with the drafting of the final deliverable reports.
- SAFOSO Trainer II: (b)(6) will conduct ToT training and observational activities and Regional Workshop oversight, and assist with the drafting of the final deliverable reports.

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials

Significant materials and supplies are not anticipated to be required for this effort. However, we are budgeting for a small quantity of office supplies in case last-minute printing of agendas, training materials, or workshop materials is required to successfully execute and support in-country project activities.

Other Direct Costs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for SAFOSO staff for the period of performance for this engagement. Metabiota personnel performing on this project are already insured.

Subcontracts

A Subcontract will be issued to SAFOSO for time provided by their Trainers, as well as materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

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Travel is requested to support all SAFOSO Trainers to facilitate project implementation and conduct training and supportive activities in this effort.

Travel is also requested for Metabiota Program Manager and Trainer I to travel to Tbilisi, Georgia, to participate in the Regional Summary Workshop.

Conclusion

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP's mission in Ukraine in the implementation of Community Outreach to Support Understanding of African Swine Fever (ASF) Ecology and Epidemiology in Eastern Europe (EE): Training and Implementation for Methods and Strategies for Control and Prevention (Ukraine TO4 TAP4. Metabiota will ensure, through strong project management and risk mitigation, that the training will be executed in an efficient and timely manner delivering a top quality program geared to support enhanced biosurveillance and biosafety efforts in the region.

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Appendix A - Team Metabiota Overview

Metabiota is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science, including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in 20 countries and offices in San Francisco, Washington, China, Canada, and Sierra Leone.

Metabiota currently supports a number of Defense Threat Reduction Agency's Cooperative Biological Engagement Program (DTRA CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. Metabiota's mission aligns well with DTRA CBEP and the entire Metabiota team is focused on supporting our USG Partners in reducing the risk of biological threats worldwide, and employs a collaborative and agile approach to biological risk reduction.

To ensure a successful event, Metabiota, in coordination with DTRA CBEP regional leadership and in country partners have built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGO) whose respective aims could impact DTRA CBEP objectives.

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TD 012 Ukraine Project 2 (UP-2)

Objectives

The overarching objectives of this project are to develop both explanatory and predictive, spatially-explicit models to explore the geography and ecology of EDPs, specifically Francisella tularensis, the causative agent of tularemia, and Bacillus anthracis, the causative agent of anthrax, across Ukraine at multiple spatial scales.

Period of Performance: 05/16/2015 - 05/16/2016

CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$433,233.00	$26,469.00	$406,764.00
1003	$135,002.37	$2,979.14	$132,023.23
1004	$172,190.60		$172,190.60
1005	$56,587.08		$56,587.08
TOTAL	$797,013.05	$29,448.14	$767,564.91

CLIN 1002 – Labor

The primary labor costs on Metabiota AEP for UP-2 have been program management (PM) and project coordination (PC) costs. The main drivers of the costs were incurred in planning for expeditions by the US collaborators (WRAIR, UF, KSU) on this project to Ukraine to work with the Ukrainian scientists. Additionally, some PM/PC costs incurred are associated with the work necessary to transition to a T&M contract, including proposal development and subcontract development. We have accrued some labor costs for (b)(6) (KSU) effort in continuing his efforts on land use/land cover analysis and in preparing for the August field trip.

Program Manager: 94.50 Hours

(b)(6) led proposal development, including the development of the overall project budget and the drafting of text for both the technical and management approaches. He provided oversight on subcontract development to include editing of SOWs., coordination of the project activities, including communication with BTRIC personnel integrating efforts and procurement efforts for biological safety cabinet (BSC) re-certification and laboratory and field collection supplies for Ukrainian institutes. He also leads a twice-monthly telecom with project stakeholders including WRAIR, UF, KSU, and DTRA.

Trainer 1: 65.50 Hours

(b)(6) assisted with proposal development, including the drafting of text for both the technical and management approaches. She provided coordination of the project training activities, including communication with BTRIC personnel integrating efforts. She assisted with procurement efforts for BSC re-certification and laboratory and field collection supplies for Ukrainian institutes. Ensured progress of the subcontracts (including purchase orders) through the Metabiota contracts shop.

Subject Matter Expert 3: 20 Hours

(b)(6) provided Land cover/land use subject matter expertise. He participated in project activities to include teleconferences and preparation for field collection exercise. Assisted in developing an alternative plan for biotope mapping validation.

CLIN 1003 – Materials and Supplies
Metabiota contracted for BSC re-certification at UCDCM, IVM, and VOLC in order to ensure safety of project participants.

CLIN 1004 – ODCs
To date, the ODCs accrued on UP-2 represent a subcontract to CRDF to pay Ukrainian personnel for their efforts on the project. This subcontract captures their labor and CRDF's fee. Metabiota understands that these ODCs may be required to be re-characterized as labor if Metabiota AEP is given the opportunity to implement foreign local national (FLN) labor categories. The Ukrainians on this project at IVM and UCDCM have continued (to the best of their capabilities) in analyzing previously collected samples and the data generated. These accrued costs have not been invoiced.

CLIN 1005 – Travel
No travel costs were incurred under Metabiota AEP.

Metabiota

Invoice:	INV-0000000239	**Invoice End Date**	7/31/15
Invoice Amount	29,448.14	**Invoice Due Date**	2015-10-08
Remit To:		**Bill To:**	
Metabiota,Inc.		Defense Threat Reduction Agency	
1 Sutter Street, Suite 600		8725 John J. Kingman Rd.	
San Francisco		Ft. Belvoir	
CA		VA	
94104		22060-6201	

TD-012 UP2

Transaction Project ID	PLC Cd	PLC Desc	Name	Bill Hours	Billing Rate	Amount To B	Cumulative Hours	Cumulative Amount
[redacted]								
TOTAL INVOICE							29,448.14	29,448.14

(b)(4); (b)(6)

VID: 10369

Attachment #2 (Invoice)
to the Contract
Metabiota No. 2015-11-PO July 20, 2015

Beneficiary:	**"KV-Avtomatizatsiia", Ltd.** Address: 9/11, Perspektyvna str., Kyiv, 01042; tel/fax +380-44-502-12-53
Account nr.	**26009052799172**
Bank of beneficiary:	**COMMERCIAL BANK PRIVATBANK** 49094, Ukraine Dniepropetrovsk, Naberezhnaya Pobedy 30 **TELEX: 143512 AVIZO UX** **SWIFT CODE: PBANUA2X**
Intermediary bank:	**JP MORGAN CHASE BANK** **4 NEW YORK PLAZA FLOOR 15, NEW YORK, NY 10004** **SWIFT CODE: CHASUS33**
Correspondent account:	**001-1-000080**
Messrs:	**Metabiota, Inc. Legal Address:** 1 Sutter Street, Suite 600 San Francisco, CA 94104 Banking Information: City National Bank, Montgomery Street Banking Office, 100 Montgomery Street, Suite 100, San Francisco, CA 94104 ABA Routing No. 122016066 Account No. 1112964967 SWIFT Code CINAUS6L
Order:	**Contract Metabiota No. 2015-11-PO July 20, 2015**

INVOICE № 24
from July 20, 2015

##	Description	Amount
1.	Payment for Fumigation and Certification of Biosafety Cabinets (BSCs), Certification of Vertical Laminar Flow Clean Bench and Polymerase Chain Reaction Cabinet by Contract Metabiota No. 2015-11-PO from July 20, 2015	**2.830,00**
	Total by invoice, US dollars:	**2.830,00**

Total by invoice:
Two thousand eight hundred and thirty US dollars.

@7/20/15

V # 1043

Prepared (b)(6)

Attachment #2 (Invoice)

TD012 Materials 1A

Attachment 1 (List of Services)
to the Contract No. 2415-11-PO
July 14, 2015

Додаток 1 (Перелік послуг)
до Договору 2015-11-PO
від 14 липня 2015 р.

Location:

- IVM, 30 Donetska str., Kyiv, 4 Biological Safety Cabinets, 1 Vertical Laminar Flow Clean Bench, 1 Polymerase Chain Reaction Cabinet
- UCDCM, 41 Yaroslavska Str., Kyiv, 2 Biological Safety Cabinets.
- VOLC, 55 Vol. Str., Lutsk, 1 Biological Safety Cabinet

Розташування:

- ІВМ, Донецька 30, Київ: 4 шафи біологічної безпеки, 1 шафа з вертикальним ламінарним потоком, 1 шафа для полімеразної ланцюгової реакції
- УЦКМЗ, Ярославська 41, Київ: 2 шафи біологічної безпеки.
- ВОСЕС, пр. Волі 55, Луцьк: 1 шафа біологічної безпеки

IN WITNESS WHEREOF the Company and the Vendor have executed this Attachment 1

НА ПІДТВЕРДЖЕННЯ Замовник і Виконавець підписали цей Додаток 1

The Company:
By (b)(6)
Its Contracts Manager

Date 7.07.2015

Замовник
(b)(6)

The Vendor
(b)(6)

(b)(6)

Date (b)(6) 07 2015

Виконавець
(b)(6)
Інженер
(b)(6)

Дата 20.07.2015

T.D012 materials 1B

1. 1. CONTRACT Metabiota No. 2015-11-PO	2. 2. КОНТРАКТ Metabiota No. 2015-11-PO
DATA	ДАТА
2. INTRODUCTION	**2. ВСТУП**
2.1. The present Contract (hereinafter referred to as "The Contract") is concluded by and between:	2.1. Цей Контракт (далі «Контракт»), укладений між:
- Metabiota, Inc., a company organized under the laws of the State of California, U.S.A., and represented by Lisa Kralovic (hereinafter referred to as "the Company"), on the one part; and - "KV-Avtomatizatina" Ltd., being the legal entity under the laws of Ukraine, represented by Director Kostiantyn Dudkin, acting on the ground of the Statute of the Company (hereinafter referred to as "The Vendor") on the other part,	- Метабіота Інк., компанією, що створена за законами штату Каліфорнія, США, в особі Лізи Кралович, (тут і далі «Замовник») з одного боку; та - та ТОВ «КВ-Автоматизація», що є юридичною особою згідно законодавства України, в особі директора Костянтина Дудкіна, який діє на підставі статуту (тут і далі «Виконавець»), з іншого боку
each a "Party" and collectively "Parties"	окремо надалі, а також у сукупності, а разом «Сторони»
2.2. The signatories of this document are the authorized representatives of the institutions	2.2. Особи, що підписали цей документ, є уповноваженими представниками установ
3. SUBJECT OF THE CONTRACT	**3. ПРЕДМЕТ КОНТРАКТУ**
3.1. The Vendor having provided and the Company having bought the Services in accordance to the list of services (Attachment 1) to the Contract, which is to be considered as its integral part	3.1. Виконавець надає, а Замовник купує послуги відповідно до переліку (Додаток 1), що додається до цього контракту і є його невід'ємною частиною
3.2. The Service must be provided for the Partnership Project entitled "Development of the Epidemiological Forecasting System for Zoonotic Diseases Employing GIS Technology" (hereinafter referred to as the "Project"), which is implemented under the CRDF Global Program in Ukraine (Convergence for the Project from the Ukrainian State Agency for Science, Innovation and Information N. 1 06-2-508 from 8.09.2014).	3.2. Послуги надаються для партнерського проекту, що має назву «Розробка системи епідеміологічного прогнозування зоонозних захворювань з використанням геоінформаційних технологій» (надалі "Проект") та виконується в Україні за Програмою сумісного гранту Фонду цивільних досліджень та розвитку США (розвід на виконання проекту надано Державним агентством з питань науки, інновацій та інформатизації, N° 1 06-2-508 від 8.09.2014).
4. SERVICES TO BE PERFORMED BY THE VENDOR	**4. ПОСЛУГИ ВИКОНАВЦЯ**
4.1. The Vendor on Company's request shall provide the Services for certification and fumigation of 7 bio-safety cabinets, certification of 1 Vertical Laminar Flow Clean Bench (ESCO) and 1 Polymerase Chain Reaction Cabinet (ESCO) listed in the Attachment 1. The fixed price Scope of Work (Attachment 1) is an integral part of this Subcontract	4.1. Виконавець за запит Замовника надасть послуги з сертифікації та фумігації 7 шаф біологічної безпеки, сертифікації Vertical Laminar Flow Clean Bench (ESCO) та 1 Polymerase Chain Reaction Cabinet (ESCO), що перелічені у Додатку 1. Опис обсягу робіт (Додаток 1) за фіксованою ціною є невід'ємною частиною цього Договору.
5. PRICE AND ENTIRE VALUE OF THE CONTRACT	**5. ЦІНА ТА ЗАГАЛЬНА ВАРТІСТЬ КОНТРАКТУ**
5.1. The firm-fixed price of this Contract is $2830.	5.1. Фіксована вартість цього Контракту складає 2830 дол. США
5.2. The prices of the Services are valid within 60 days	5.2. Вартість послуг дійсна протягом 60 днів
6. TERMS OF PAYMENT	**6. УМОВИ ОПЛАТИ**
[illegible] the payment [illegible]	6.1. Умови оплати 100% передоплата

TD012 materials 1 C

prepayment.

6.2. Invoicing. The invoice shall be submitted in English and Ukrainian as one electronic copy to the Company. The invoice shall be submitted via email to invoices@metabiota.com.

6.3. All bank charges in Ukraine are for the Vendor's account. All bank charges outside of Ukraine are the Metabiota's expenses.

6.2. Рахунки. Рахунок подається до Замовника у електронному вигляді. Рахунок надсилається електронною поштою на адресу invoice@metabiota.com.

6.3. Банківські витрати на території Виконавця несе Виконавець. Банківські витрати за межами території Виконавця несе Замовник.

7. TERMS OF SERVICES

7.1. The Services approved for purchase in the Attachment 1 shall be completed within 2 weeks after receipt of payment by the Vendor.

7.2. The act of signing the transfer acceptance of the services performed at the sites indicated in the Attachment 1 is considered as the delivery date of services.

7. УМОВИ НАДАННЯ ПОСЛУГ

7.1. Послуги, що узгоджені до оплати у Додатку 1, мають бути здійснені протягом 2 тижнів після отримання оплати Виконавцем.

7.2. Датою виконання послуг вважається дата підписання акту прийому-передачі виконаних робіт на об'єктах, що зазначені у Додатку 1.

8. GENERAL PROVISION

8.1. All the relations between the Parties of the present Contract are the subject to norm of the material law of Ukraine.

8.2. This Contract is prepared in English and Ukrainian language versions, which have equal validity except in the event of a dispute regarding interpretation of this Contract, at which time the English language version shall govern.

8.3. All amendments to this Contract are integral part of the entire agreement.

- Attachment 1 "List of Services"
- Attachment 2 "Invoice №24"

8. ЗАГАЛЬНІ УМОВИ

8.1. Всі відносини між сторонами цього Контракту регулюються на основі законів України.

8.2. Цей Договір складено англійською та українською мовами, які мають однакову юридичну силу, але у випадку протиріч між текстами перевагу має текст складений англійською мовою.

8.3. Всі додатки до цього договору є невід'ємною його частиною.

- Додаток №1 «Перелік послуг»
- Додаток 2 «Рахунок №24»

9. BANK DETAILS AND LEGAL ADDRESSES OF PARTIES

The Vendor: "KV-Avtomatizathia", Ltd
Perspektyvna St., 9-11, Kiev, 01042, Ukraine
Telefax: (044) 502-12-53
Beneficiary: "KV-Avtomatizathia", Ltd

Account of Beneficiary: 26009052799172

Bank of Beneficiary: COMMERCIAL BANK PRIVATBANK
49094, Ukraine Dniepropetrovsk Naherezhnaya Pobedy 30
TELEX: 143512 AVIZO UK
SWIFT CODE: PBANUA2X

Bank-correspondent: JP MORGAN CHASE BANK
4 NEW YORK PLAZA FLOOR 15, NEW YORK

9. БАНКІВСЬКІ РЕКВІЗИТИ ТА ЮРИДИЧНІ АДРЕСИ СТОРІН

Виконавець: ТОВ "КВ Автоматизація"
вул. Перспективна 9-11, м.Київ, 01042, Україна
Телефакс: (044) 502-12-53
Beneficiary: "KV-Avtomatizathia", Ltd

Account of Beneficiary: 26009052799172

Bank of Beneficiary: COMMERCIAL BANK PRIVATBANK
49094, Ukraine Dniepropetrovsk Naherezhnaya Pobedy 30
TELEX: 143512 AVIZO UK
SWIFT CODE: PBANUA2X

Intermediary Bank: JP MORGAN CHASE BANK
4 NEW YORK PLAZA FLOOR 15, NEW YORK.

TD 012 Materials 1D

1e

NY 10004
SWIFT CODE: CHASUS33
Correspondent Account: [illegible]

The Company:
Metabiota, Inc. Legal Address:
[illegible] Sutter Street, Suite [illegible]
San Francisco, CA [illegible]
Banking Information:
City National Bank, Montgomery Street Banking Office, 100 Montgomery Street, Suite [illegible], San Francisco, CA 94104
ABA Routing No.: 2[illegible]
Account No.: 1129649[illegible]
SWIFT Code: [illegible]

NY 10004
SWIFT CODE: CHASUS33
Correspondent Account: 001-[illegible]

Замовник:
Метабіота Інк., Адрес:
[illegible] Sutter Street, Suite [illegible]
San Francisco, CA [illegible]
Банківська [illegible]
City National Bank, Montgomery Street Banking Office, [illegible] Montgomery Street, Suite [illegible], San Francisco, CA [illegible]
ABA Routing No.: [illegible]
Account No.: [illegible]
SWIFT Code: [illegible]

The Company
(b)(6)

Замовник

Signature

Date: July 20, 2015

Підпис

Дата: 20 липня 2015

The Vendor
Kostiantyn Dudkin, Director

Signature: (b)(6)

Date: 20.07.2015

Виконавець
Костянтин Дудкін, Директор

Підпис: (b)(6)

Дата: 20.

TD 012 Ukraine Project 2 (UP-2)

Objectives

The overarching objectives of this project are to develop both explanatory and predictive, spatially-explicit models to explore the geography and ecology of EDPs, specifically Francisella tularensis, the causative agent of tularemia, and Bacillus anthracis, the causative agent of anthrax, across Ukraine at multiple spatial scales.

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1003	$135,002.37	$134,961.51	$40.86
1004	$172,190.60		$172,190.60
1005	$56,587.08		$56,587.08
TOTAL	$797,013.05	$297,064.27	$499,948.78

CLIN 1002 – Labor

Program Manager: 94 Hours

(b)(6) led regular project coordination calls with the UP-2 collaborators and the Metabiota personnel based in Ukraine and assisted the UP-2 collaborators with developing alternate plans to reach research goals when travel planned by non-Metabiota subcontracted collaborators did not occur on schedule. (b)(6) ewed and submitted travel authorization requests and travel documentation for (b)(6) ugust trip which was ultimately cancelled.

submitted a revised technical and cost proposal addressing DTRA concerns about labor costs, materials, and travel. A new, revised TD was further issued after this proposal was submitted and (b)(6) contributed inputs toward a second, further revised technical and cost proposal which proposed costs that took into consideration transition of the project back to the BTRIC. This proposal was accepted. Additionally, related to the transition to the BTRIC, (b)(6) led communications on changes to the invoicing with CRDF Global, who is being leveraged as the intermediary in processing payments to the Ukrainian participants on project UP-2.

Trainer 1: 55.50 Hours

(b)(6) conducted routine communications with the project team to direct and guide progress on this project as well as routine project administration efforts including reconciliation and payment of invoices (b)(6) drafted travel documentation for (b)(6) travel which was ultimately cancelled. She also participated in facilitating the transition of UP-2 to BTRIC by contributing inputs toward a second, further revised technical and cost proposal which proposed costs that took into consideration transition of the project back to the BTRIC.

Subject Matter Expert 3: 157.5 Hours

The hours reflect a reconciliation of under-accruing hours against the actual hours invoiced. (b)(6) at KSU performed a reorganization of land use/land cover classification in preparation for data validation. Additionally, he designed a validation protocol for land cover/land use classification, which ultimately was not used due to the cancellation of August travel. Following cancellation of the trip (b)(6) worked with other project personnel (primarily (b)(6) at University of Florida) on developing a new validation protocol which would use only existing field data. He continues to work with (b)(6) on developing this protocol. (b)(6) designed and developed software tools to extract biophysical information such as vegetation density, canopy temperature, and soil moisture from MODIS image data, and is currently downloading and preprocessing MODIS data in preparation for biophysical analysis.

Additionally, KSU updated and upgraded the servers on which the UP-2 geophysical data was held, and (b)(6) participated in this process to ensure the integrity of previously collected data.

Research and Data Analyst: 983.95 Hours

CRDF Hours invoiced include the close out of the IVM, UCDCM and VOLC Ukranian agreements for the second quarter. No further costs will be incurred on AEP.

(b)(6) hours were incurred in assisting (b)(6) in his research activities.

CLIN 1003 – Materials and Supplies

CLIN 1004 – ODCs

No costs invoiced.

CLIN 1005 – Travel

No costs invoiced.

Metabiota

TO-012 UP2

CLIN 1002 LABOR

NAME	LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED
(b)(4); (b)(6)				$ 13,060.36	188.50	$ 26,190.19
				$ 69,298.63	900.45	$ 69,298.63
				$ 6,426.16	83.50	$ 6,426.16
				$ 39,831.75	177.50	$ 44,889.75
				$ 7,016.87	121.00	$ 15,298.03
			5	$ 135,633.77	1470.95	$ 162,102.76

CLIN 1003 Materials

TRANSACTION		CURRENT INVOICE		CUMULATIVE INVOICED
Lab Supplies	Bionix Lab LLC	$ 32,027.11	1	
Lab Supplies	Bionix Lab LLC	$ 8,357.31	2	
Lab Supplies	Bionix Lab LLC	$ 84,852.92	3	
FedEx	ODC: Postage & Delivery	$ 137.76	4	
		$ 125,375.10		$ 128,205.10

(b)(4); (b)(6)

TOTAL INVOICE

SUBCONTRACTOR (Постачальник)

BIONIX LAB LLC
(ТОВ "КОНІКС ЛАБ")
ACC №: 26004046100401
Bank of Beneficiary: PIRAEUS BANK JCB JSC, Kyiv, Ukraine
SWIFT code: JCBIUAUK
Corr. Account No.: 04449518
Correspondent Bank: Deutsche Bank Trust Company Americas, USA, New York
SWIFT Code: BKTRUS33

CONTRACTOR (Платник)

Metabiota, Inc.
Метабіота Інк.
Legal Address: 1 Sutter Street, Suite 300, San Francisco, CA 94104
Banking Information: City National Bank, Montgomery Street Banking Office, 100 Montgomery Street, Suite 100, San Francisco, CA 94104
ABA Routing No.: (b)(4); (b)(6)
Account No.:
SWIFT Code:

Invoice # 266
Рахунок-фактура № 266
dd. July 23, 2015
від 23 липня 2015 р.
(Annex 2-B To Contract No. 2015-03-PO of 25.02.2015)
(Додаток № 2-В До Договору № 2015-03-PO від 25.02.2015)

№ п/п	Item / Назва	Currency / Валюта	Quantity / Кількість	Price incl. VAT / Ціна з ПДВ	Total incl. VAT / Сума з ПДВ
1	Payment 100% according to the Annex 2-B To Contract No. 2015-03-PO of 25.02.2015 / Платіж 100% згідно Додатку № 2-В До Договору № 2015-03-PO від 25.02.2015	USD	1	32 027.11	32 027.11
				Total incl. VAT / Всього з ПДВ:	**32 027.11**

Total Amount: thirty two thousand and twenty seven dollars 11 c.
Всього на суму: тридцять дві тисячі двадцять сім доларів 11 центів

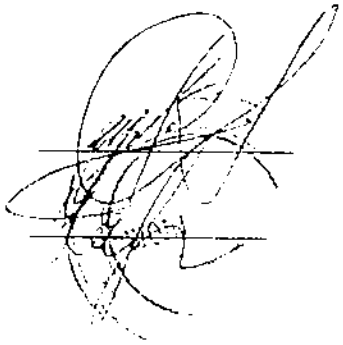
Director: (b)(6)
Директор: Щербина І.В.

Chief Accountant: Kalinichenko O.M.
Головний бухгалтер: Калініченко О.М.

TD 12 #1
Materials

SUBCONTRACTOR

CONTRACTOR



(b)(6)

TD 12 #2a
Materials

SUBCONTRACTOR "BIONIX LAB" LLC
(Постачальник) (ТОВ "БІОНІКС ЛАБ")
ACC №: 2600404610040[illegible]
Bank of Beneficiary: PIRALUS BANK (CB JSC, Kyiv, Ukraine)
SWIFT code (b)(4); (b)(6)
Corr. Account No
Correspondent Bank: Deutsche Bank Trust Company Americas (USA, New York)
SWIFT Code (b)(4); (b)(6)

CONTRACTOR Metabiota, Inc.
(Платник) Метабіота Інк.
Legal Address: 1 Sutter Street, Suite 600, San Francisco, CA 94104
Banking Information: City National Bank, Montgomery Street Banking Office, 100 Montgomery Street, Suite 300, San Francisco, CA 94104
ABA Routing No (b)(4); (b)(6)
Account No
SWIFT Code

Invoice # 269
Рахунок-фактура № 269
dd. July 23, 2015
від 23 липня 2015 р.
(Annex 1-B To Contract No. 2015-03-PO of 25.02.2015)
(Додаток № 1-В До Договору № 2015-03-PO від 25.02.2015)

№ п/п	Item / Назва	Currency / Валюта	Quantity / Кількість	Price incl. VAT / Ціна з ПДВ	Total incl. VAT / Сума з ПДВ
1	Payment 100% according to the Annex 1-B To Contract No. 2015-03-PO of 25.02.2015 / Платіж 100% згідно Додатку № 1-В До Договору № 2015-03-PO від 25.02.2015	USD	1	84 852,92	84 852,92
				Total incl. VAT / Всього з ПДВ:	**84 852,92**

Total Amount: eighty four thousand [illegible] dollars 92 cents
Всього на суму: [illegible] дол. 92 центи

Підпис (b)(6)
Директор Щербина І.В.

Chief Accountant Kalinichenko O.M.
Головний бухгалтер Калініченко О.М.

TD 12 # 3

Fed

Invoice Number	Invoice Date	Account Number	Page
6-519-25363	Aug 31, 2015	(b)(4); (b)(6)	1 of 3

FedEx Tax ID: 71-0427007

Billing Address:
METABIOTA
425 CALIFORNIA ST STE 200
SAN FRANCISCO CA 94104-2104

Shipping Address:
(b)(6)
METABIOTA
425 CALIFORNIA ST STE 200
SAN FRANCISCO CA 94104-2104

Invoice Questions?
Contact FedEx Revenue Services
Phone: (800) 622-1147
M-F 7 AM to 8 PM CST
Sa 7 AM to 6 PM CST
Fax: (800) 548-3020
Internet: www.fedex.com

Invoice Summary Aug 31, 2015

FedEx Express Services

Transportation Charges		133.75
Special Handling Charges		4.01
Total Charges	USD	$137.76
TOTAL THIS INVOICE	**USD**	**$137.76**

Other discounts may apply

Detailed descriptions of surcharges can be located at fedex.com

To ensure proper credit, please return this coupon with your payment to FedEx.
Please do not staple or fold. Please make check payable to FedEx.
☐ For change of address, check box and complete reverse side.

Invoice Number	Account Number	Amount Due
6-519-25363	5815-6888-6	USD $137.76

Remittance Advice

Your payment is due by Sep 15, 2015

581568886519253634900001377602

METABIOTA
425 CALIFORNIA ST STE 200
SAN FRANCISCO CA 94104-2104

FedEx
P O Box 7221
Pasadena CA 91109-7321

TD 12 #14a
Materials

Fed

Invoice Number	Invoice Date	Account Number	Page
6-519-25363	Aug 31, 2015	(b)(4); (b)(6)	3 of 3

FedEx Express Shipment Detail By Payor Type (Original)

[redacted]

Fuel Surcharge - FedEx has applied a fuel surcharge of 3.00% to this shipment
Higher rate applied as package weight exceeded weight limit of original service type

		Sender	Recipient
Automation	AWB	(b)(6)	(b)(6)
Tracking ID	807641312792	METABIOTA INC	
Service Type	FedEx Intl Priority	8757 GEORGIA AVE SUITE 800	5/60 ZHYLYANSKO STREET
Package Type	FedEx Envelope	SILVER SPRING MD 20910 US	2ND FLOOR OFFICE 1
Orig /Dest	CGS/IEV		KYIV 01033 UA
Zone	M		
Packages	1		
Rated Weight	1.0 lbs		
Declared Value	USD 20.00		
Delivered	Aug 26, 2015 13:15	Transportation Charge	133.75
Signed by	..S DUBINETS	Fuel Surcharge	4.01
FedEx Use	_/US0010/_	**Total Transportation Charges**	**USD $137.76**

Shipper Subtotal	**USD**	**$137.76**
Total FedEx Express	**USD**	**$137.76**

TD 12 #14b

OPTION YEAR - SOW Section 4.3, Task 6: Incorporating GIS, Remote Sensing, and

METABIOTA

CONTRACT NAME: Academic Engagement Partnership Program
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: June 29, 2015
PERIOD OF PERFORMANCE: 16 May 2015 - 15 May 2016
PROJECT: UP-2

oaded based on rate card):	LOE Hours		Amount
Program Manager	500	$	(b)(4); (b)(6)
CLIN 1002 - Trainer I	500	$	
CLIN 1002 - Subject Matter Expert III	592	$	
CLIN 1002 - Research and Data Analyst	1,960	$	
Total Labor Costs (fully loaded):	**3,552**		
OTHER DIRECT COSTS *(fully loaded):*			
CLIN 1003 Materials		$	135,002.37
CLIN 1004 ODCs		$	172,190.60
CLIN 1005 Travel		$	56,587.08
Total Other Direct Costs (fully loaded):			(b)(4); (b)(6)
Total:			

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 29-Jun-15
Project UP-2
Period of Performance: 16 May 2015 - 15 May 2016

CLIN No.	Labor Description	Cost	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	$ (b)(4); (b)(6)	500	(b)(4); (b)(6)
CLIN 1002	Trainer I	$	500	
CLIN 1002	SME III	$	592	
CLIN 1002	Research and Data Analyst	$	1,960	

MATERIALS ESTIMATE

Contract Name: Academic Engagement Partnership Program
Contract Number: HDTRA1-14-C-0104
Date Prepared: 29-Jun-15
Project TP-2
Period of Performance: 16 May 2015 - 15 May 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1003	10:1 Bleach Starter Kit	$ 104.17	2	$ 208.34
CLIN 1003	15 mL Graduated tubes propylene, case of 500	$ 132.94	5	$ 664.70
CLIN 1003	**3M® Economy N95 Particle Respirator, pack of 20**	**$ 22.14**	**21**	**$ 464.94**
CLIN 1003	3M™ Comply™ (SteriGage™) Chemical Integrator 1243A, case of 100	$ 158.13	2	$ 316.26
CLIN 1003	50 mL Graduated tubes propylene, case of 500	$ 144.90	3	$ 434.70
CLIN 1003	Absorbent Pads, case of 500	$ 174.64	1	$ 174.64
CLIN 1003	Absorbent towels, 40x60 cm, pk/28	$ 8.43	27	$ 227.61
CLIN 1003	Agarose MS, 100g	$ 349.60	1	$ 349.60
CLIN 1003	Agarose, LE BioWhittaker, 500g	$ 381.92	2	$ 763.84
CLIN 1003	Alchol proof labeling pens	$ 23.71	1	$ 23.71
CLIN 1003	AMPHOTERICIN B-SOLUBILIZED CELL CULTURE TESTED, 100 MG	$ 220.92	6	$ 1,325.52
CLIN 1003	Autoclavable Biohazard Bags 1.5ml, 19 x 23, 200 per pack	$ 121.21	2	$ 242.18
CLIN 1003	Autoclave gloves, 2/pk	$ 144.07	10	$ 1,110.70
CLIN 1003	Autoclave Pans and Baskets, 6/case	$ 229.93	1	$ 229.93
CLIN 1003	BBL Hemoglobin, Bovine, Freeze-dried, 500g	$ 2,286.66	3	$ 6,859.98
CLIN 1003	Benchtop Bag Holders	$ 29.73	2	$ 59.46
CLIN 1003	Bio Transport Carrier System	$ 29.03	1	$ 29.03
CLIN 1003	BiOstic® Blood Total RNA Isolation Kit	$ 207.00	1	$ 207.00
CLIN 1003	BIOWORLD DNA MARKER LADDER100 BP-3KB)	$ 157.42	1	$ 157.42
CLIN 1003	Bleach towelettes, case of 100	$ 94.90	1	$ 94.90
CLIN 1003	Board for rodent necroscopy, wooden	$ 7.51	3	$ 22.53
CLIN 1003	Boric Acid, 1kg	$ 57.50	1	$ 57.50
CLIN 1003	Brain heart infusion agar, 500 g	$ 214.36	6	$ 1,286.16
CLIN 1003	Brain Heart infusion broth 500g	$ 215.51	6	$ 1,293.06
CLIN 1003	Bur (drill) for soil sampling to a depth	$ 69.00	1	$ 69.00
CLIN 1003	CEFEPIME HYDROCHLORIDE, 100MG	$ 1,093.19	6	$ 6,559.14
CLIN 1003	Chloroform, minimum 99% (for molecular biology), 25 mL	$ 138.00	2	$ 276.00
CLIN 1003	Citation Economy Safety Glasses, pack of 12	$ 57.50	7	$ 402.50
CLIN 1003	Cleaner with Bleach, Meliseptol foam pure 750 ml spray bottle	$ 22.95	20	$ 459.00
CLIN 1003	Clear Autoclavable Biohazard Bags	$ 230.00	1	$ 230.00
CLIN 1003	Cloramin B	$ 57.50	10	$ 575.00

CLIN 1003	Cloth Reusable Gown (size L)	$	15.67	2	$ 31.34
CLIN 1003	Cloth Reusable Gown (size M)	$	15.67	4	$ 62.68
CLIN 1003	Cloth Reusable Gown (size XL)	$	15.67	4	$ 62.68
CLIN 1003	Containers for decontamination of materials/Pipet/Instrument Sterili	$	1,377.70	1	$ 1,377.70
CLIN 1003	Containers, 81-well microtube rack for 1.5 and 2 ml screw cap mictro	$	17.78	4	$ 71.12
CLIN 1003	cotton wool	$	57.44	10	$ 574.40
CLIN 1003	Cryo-tags, 100/roll	$	75.46	3	$ 226.38
CLIN 1003	Cryoboxes, 9x9, CS/6	$	300.09	3	$ 900.27
CLIN 1003	Cryogenic Vial Rack	$	97.42	5	$ 487.10
CLIN 1003	Cryotubes, 2 ml, sterile (100 per pack)	$	57.50	5	$ 287.50
CLIN 1003	Cryovials racks, 100 vials	$	33.63	8	$ 269.04
CLIN 1003	Cryovials, 2 ml, outer screw, with skirt, 1000/pack	$	655.89	4	$ 2,623.56
CLIN 1003	Cryoware Marker Set, black, set of 4	$	36.90	6	$ 221.40
CLIN 1003	CYCLOHEXIMIDE FROM STREPTOMYCES GRISEUS, 5G	$	498.64	3	$ 1,495.92
CLIN 1003	Cystine Heart Agar Base, 500 g	$	148.04	8	$ 1,184.32
CLIN 1003	Deb InstantFOAM, skin cleanser, 47 ml	$	14.92	20	$ 298.40
CLIN 1003	Desinfectant Perhydrol (hydrogen peroxide 32%) (1 kg)	$	5.52	1	$ 5.52
CLIN 1003	Detergent disinfectant (case of 2)	$	136.39	1	$ 136.39
CLIN 1003	Diagnostic fluorescent immunoglobulins (5 ampules per pack)	$	182.85	5	$ 914.25
CLIN 1003	Disinfectant Brilliant, 1 L	$	11.71	5	$ 58.55
CLIN 1003	Disinfectant wipes (wipes lysol sanitizing)	$	7.21	30	$ 216.30
CLIN 1003	Disinfectant, "Neochlor"	$	15.31	3	$ 45.93
CLIN 1003	Disinfectants/Sanitazers	$	40.19	1	$ 40.19
CLIN 1003	Dissecting Forceps	$	6.83	3	$ 20.49
CLIN 1003	DNA/RNA Free Reagent, 720ml. (case of 12)	$	199.61	2	$ 999.22
CLIN 1003	dNTP, Mix, 2 mM each	$	148.35	10	$ 1,483.50
CLIN 1003	Duct Tape	$	18.69	3	$ 56.07
CLIN 1003	EDTA-Na salt (1 kg)	$	94.68	2	$ 189.36
CLIN 1003	EMD Millipore Fluids Contamination Analysis Kit	$	2,648.57	1	$ 2,648.57
CLIN 1003	Eppendorf tubes (0.5 ml) 1000/pack	$	60.84	1	$ 60.84
CLIN 1003	Eppendorf tubes (1.5 ml) 1000/pack	$	70.15	2	$ 140.30
CLIN 1003	Eppendorf tubes (2 ml) 500/pack	$	101.78	6	$ 610.68
CLIN 1003	Eyewash Safety Station (case of 5)	$	292.50	1	$ 292.50
CLIN 1003	Falcon tubes (15 ml, steril) 500/pack	$	310.94	3	$ 932.82
CLIN 1003	Filter tips (200 mkl - pipetting of microvolumes for PCR), case of	$	172.50	11	$ 1,897.50
CLIN 1003	Filter tips (10 mkl -pipetting of microvolumes for PCR), case of 960	$	172.50	5	$ 862.50
CLIN 1003	Filter tips (1000 mkl -pipetting of microvolumes for PCR), case of 9	$	172.50	12	$ 2,070.00
CLIN 1003	Filter tips 100 mkl, case of 960	$	172.50	1	$ 172.50
CLIN 1003	Filter tips 2-20 mkl	$	172.50	6	$ 1,035.00
CLIN 1003	First Aid Kit, compact	$	140.06	2	$ 280.12

CLIN 1003	First Aid Kit, wall mounted	$ 252.11	1	$ 252.11
CLIN 1003	Fisher Scientific SterilElite™ Tabletop Autoclave	$ 8,448.54	1	$ 8,448.54
CLIN 1003	Flat Wire Sampling Bags 120 mL, pack of 500	$ 79.67	1	$ 79.67
CLIN 1003	Flat Wire Sampling Bags 540 mL, pack of 500	$ 112.91	1	$ 112.91
CLIN 1003	Forceps surgical	$ 7.12	3	$ 21.36
CLIN 1003	Gauze	$ 4.59	30	$ 137.70
CLIN 1003	GelSpin DNA purification	$ 828.00	1	$ 828.00
CLIN 1003	Glassware: conic flasks, measuring glass, bottles, graduated cylinde	$ 517.50	1	$ 517.50
CLIN 1003	Gloves latex (medium), 100/pk	$ 9.02	14	$ 126.28
CLIN 1003	Gloves latex (small), 100/pk	$ 9.02	10	$ 90.20
CLIN 1003	Glycogen 20mg/ml (diluted Beckman CEQ Glycogen) (2x0.25 ml)	$ 115.00	4	$ 460.00
CLIN 1003	Gram Stain Kit	$ 57.50	5	$ 287.50
CLIN 1003	Guanidine Thiocyanate 250 g	$ 201.01	2	$ 402.02
CLIN 1003	Hand Sanitizer Wipes, Bacillol, 100/pk	$ 18.76	52	$ 975.52
CLIN 1003	Heavy Rubber Gloves, 36/pk	$ 1,624.39	1	$ 1,624.39
CLIN 1003	Inoculating loop (disposable), 10µl, pack of 2000	$ 118.23	2	$ 236.46
CLIN 1003	Isopropanol (500 mL)	$ 34.50	2	$ 69.00
CLIN 1003	Lab Guard Plus Polyethylene Specimen Handling Bags -	$ 158.06	1	$ 158.06
CLIN 1003	Labeling/indicator tapes	$ 23.00	1	$ 23.00
CLIN 1003	LAMDA BIOTECH INC 100BP DNA LADDER	$ 224.25	1	$ 224.25
CLIN 1003	Leakproof Specimen Containers non sterile, pack of 500	$ 68.77	3	$ 206.31
CLIN 1003	Leakproof Specimen Containers sterile, pack of 100	$ 68.77	4	$ 275.08
CLIN 1003	Liquid soap	$ 2.35	12	$ 28.20
CLIN 1003	Low linting wipes, pack of 150	$ 34.21	4	$ 136.84
CLIN 1003	Maxima™ Hot Start Taq DNA Polymerase	$ 66.70	1	$ 66.70
CLIN 1003	MgSO4, 50 mM	$ 230.00	3	$ 160.00
CLIN 1003	Molecular BioProducts™ EasyStart™ PCR Mix-in-a-Tube	$ 170.21	4	$ 680.84
CLIN 1003	Molecular weight marker, Fermentas #SM1153, #SM1133	$ 72.45	6	$ 434.70
CLIN 1003	Narrow duct tape	$ 1.58	10	$ 15.80
CLIN 1003	Narrow medical court plaster	$ 3.15	10	$ 31.50
CLIN 1003	NeoPro Green Powder-Free Gloves, L, 100/pk	$ 8.63	3	$ 25.89
CLIN 1003	NeoPro Green Powder Free Gloves, M, 100/pk	$ 8.63	5	$ 43.15
CLIN 1003	Nitrile gloves, M, 100/pk	$ 10.20	3	$ 30.60
CLIN 1003	Nitrile gloves, S, 100/pk	$ 10.20	3	$ 30.60
CLIN 1003	NucleoSpin Tissue (250) 250 prep	$ 634.80	6	$ 3,808.80
CLIN 1003	Paper towel 24x24	$ 27.60	8	$ 220.80
CLIN 1003	Parafilm, 100x75	$ 28.75	1	$ 28.75
CLIN 1003	PCR Clean-up kit	$ 847.55	2	$ 1,695.10
CLIN 1003	PCR Racks 96-Well(cs/5)	$ 25.43	3	$ 76.29
CLIN 1003	PCR tubes (0.2ml, thin walled) 1000/pack	$ 245.09	7	$ 1,715.63

CLIN 1003	PCR tubes 1.5 ml 1000/pack	$	41.40	2	$ 82.80
CLIN 1003	Permanent markers for glass	$	4.31	5	$ 21.55
CLIN 1003	Petri dishes sterile 100 mm	$	310.50	7	$ 2,173.50
CLIN 1003	Pipettors	$	86.25	18	$ 1,552.50
CLIN 1003	Polycoated Polypropylene Barrier Gowns, case of 30	$	84.30	1	$ 84.30
CLIN 1003	POLYMYXIN B SULFATE USP, 1MG	$	147.55	8	$ 1,180.40
CLIN 1003	Protective goggles ET-30	$	1.29	10	$ 12.90
CLIN 1003	Proteinase K (100mg)	$	187.45	4	$ 749.80
CLIN 1003	Purell Instant Hand Sanitizers (case of 24)	$	93.43	1	$ 93.43
CLIN 1003	Respirator	$	11.58	10	$ 115.80
CLIN 1003	RevertAid™ Premium Reverse Transcriptase	$	586.50	2	$ 1,173.00
CLIN 1003	RT-PCR Grade Water, 30 ml: DEPC-treated Water	$	33.32	5	$ 166.60
CLIN 1003	Safety Blood Collection Set (pk of 100)	$	138.00	10	$ 1,380.00
CLIN 1003	Safety box PMMA 330x175x180 mm	$	143.08	2	$ 286.16
CLIN 1003	Safety box rack, stainless steel	$	36.52	2	$ 73.04
CLIN 1003	Safety Pouch Stand	$	85.39	2	$ 170.78
CLIN 1003	Sample containers	$	368.00	1	$ 368.00
CLIN 1003	sampler 1 channel 0.5-10 mkl	$	418.60	2	$ 837.20
CLIN 1003	sampler 1 channel 30 -300 mkl	$	419.75	2	$ 839.50
CLIN 1003	Scalpel Handle No. 4, 13.7cm L, Stainless Steel and 10 No. 22 Blades	$	29.12	1	$ 29.12
CLIN 1003	Scalpel, Stainless Steel	$	5.39	5	$ 26.95
CLIN 1003	Scissors with blunt curved edges	$	7.05	10	$ 70.50
CLIN 1003	Scissors with blunt straight edges	$	7.05	5	$ 35.25
CLIN 1003	Scissors with sharp straight edges	$	7.05	3	$ 21.15
CLIN 1003	Sharps Chute Container	$	404.80	2	$ 809.60
CLIN 1003	Sheep Blood, Defibrinated, 100 ml	$	102.28	10	$ 1,022.80
CLIN 1003	Shoe Covers, case of 100	$	29.54	3	$ 88.62
CLIN 1003	Silica, 1kg	$	57.50	1	$ 57.50
CLIN 1003	SODIUM DODECYL SULFATE, 1 bottle	$	288.80	1	$ 288.80
CLIN 1003	Softa-Man ViscoRub, hand disinfectant, 1000 ml	$	25.23	2	$ 50.46
CLIN 1003	Spray bottle, case of 6	$	50.67	7	$ 354.69
CLIN 1003	SsoFast EvaGreen Supermix, 200 x 20 µl reactions	$	422.38	12	$ 5,067.36
CLIN 1003	Standing rack for pipettors	$	98.90	5	$ 494.50
CLIN 1003	Standing rack for tubes, for 96 microtubes	$	77.58	7	$ 543.06
CLIN 1003	Stationery and other expendable materials:cartridges, toner, etc.	$	57.50	20	$ 1,150.00
CLIN 1003	Sterilizing tray with cover	$	62.10	3	$ 186.30
CLIN 1003	Swine/Pig Anti-Anthrax Protective Antigen 83 (PA83) IgG-specific ELI	$	685.00	25	$ 17,125.00
CLIN 1003	Syringe Needle 21 g	$	34.50	1	$ 34.50
CLIN 1003	Syringe, 10 ml	$	34.50	10	$ 345.00

CLIN 1003	Tape, autoclave indicator	$ 7.67	12	$ 92.04
CLIN 1003	Taq DNA Polymerase;	$ 462.81	2	$ 925.62
CLIN 1003	Thermo bag	$ 57.50	2	$ 115.00
CLIN 1003	tips 0,5 - 10 mkl eppendorf, no filter, case of 960	$ 143.75	10	$ 1,437.50
CLIN 1003	tips 2-200 mkl eppendorf, no filter, case of 960	$ 143.75	15	$ 2,156.25
CLIN 1003	Tips, no filter, 1000 mkl, case of 960	$ 103.50	4	$ 414.00
CLIN 1003	Tips, no filter, 200 mkl, case of 960	$ 103.50	23	$ 2,380.50
CLIN 1003	Tough-Tags Adhesive Labels, pack of 1000	$ 75.90	1	$ 75.90
CLIN 1003	Towels absorbent for work in the cabinet, 60x90, EURON SOFT Extra, p	$ 70.73	5	$ 353.65
CLIN 1003	Towels absorbent for work in the cabinet, EURON SOFT Extra 40*60, pa	$ 34.39	5	$ 171.95
CLIN 1003	Transport case (Sarstedt #95.1720, transport case for in-house sampl	$ 95.78	6	$ 574.68
CLIN 1003	Transport cases (Sarstedt #95.1715, transport case, secondary contai	$ 95.78	2	$ 191.56
CLIN 1003	Transport containers 10 l	$ 210.45	1	$ 210.45
CLIN 1003	Transport containers 5 l	$ 210.45	1	$ 210.45
CLIN 1003	Tris (1 kg)	$ 117.48	3	$ 352.44
CLIN 1003	Tris Hydrochloride, 1M, 500 mL, case of 6	$ 479.09	1	$ 479.09
CLIN 1003	Tris-EDTA (TE), 10X Solution (pH 7.4/Molecular Biology), Fisher BioR	$ 117.45	10	$ 1,174.50
CLIN 1003	Triton X-100	$ 56.17	2	$ 112.34
CLIN 1003	TRIZol (200 mL)	$ 408.25	1	$ 408.25
CLIN 1003	Tubes for collecting ectoparasits from rodents, 10ml, 250/pk	$ 38.92	1	$ 38.92
CLIN 1003	Tularemia diagnostic serum, 10 ampoules x 1,0 ml	$ 230.00	1	$ 230.00
CLIN 1003	UltraClean Lab Cleaner (DNA Away) (1L)	$ 86.25	3	$ 258.75
CLIN 1003	VANCOMYCIN HYDROCHLORIDE HYDRATE, 250MG	$ 234.72	3	$ 704.16
CLIN 1003	Ziplock bags, polyethilene, 10x10 cm, 40 mkm, pk/100	$ 1.17	12	$ 14.04
CLIN 1003	Ziplock bags, polyethilene, 25x30cm, 50 mkm, pk/100	$ 7.05	5	$ 35.25
CLIN 1003	Ziplock bags, polyethilene, 40x30 cm, 50 mkm, pk/100	$ 10.20	3	$ 30.60
		[redacted]		[redacted]

(b)(4) (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 29 Jun 15
Project IUP-2
Period of Performance: 16 May 2015 - 15 May 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1004	DBA Insurance	$		
CLIN 1004	Subcontract to CRDF	$		

(b)(4); (b)(6)

TRAVEL ESTIMATE COST

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 29 Jun 15
Proposal: CP 2
Period of Performance: 16 May 2015 15 May 2016

Traveler:	Local [redacted]	Local	Local	International	International [redacted]	International [redacted]
Departure Location:	Manhattan, KS	Kyiv, Ukraine	Kyiv, Ukraine	Gainesville, FL	Gainesville, FL	Kyiv, Ukraine
Destination:	Gainesville, Florida	Volyn, Ukraine	Volyn, Ukraine	Kyiv, Ukraine	Kyiv, Ukraine	Gainesville, FL
Purpose:	mapping data validation workshop	Field sampling ground truthing trip	Field sampling ground truthing trips	collaborative work with UDC and IVM	collaborative work with UDC and IVM	mapping data validation workshop
AirFare/train	$800	$0	$100	$2,100	$2,100	$2,100
Lodging	564	0	700	1,701	1,701	564
Meals / Incidentals	255	0	175	917	917	255
Meals / Incidentals (First and Last Travel Days)	77			197	197	77
Ground Transport	$200	$0	$750	$200	$200	200
Incidentals (Visa)	0			57	57	0
# of Lodging Nights	6	0	5	7	7	6
# of Days	7	0	5	9	9	7
Total Per Trip	**$1,896**	**$0**	**$2,035**	**$5,172**	**$5,171**	**$3,196**
No. of trips	1	0	2	2	2	1
No. of persons	1	0	6	1	1	3
SUBTOTAL:	**$1,895.50**	**$0.00**	**$24,420.00**	**$10,343.00**	**$10,342.08**	**$9,586.50**

[redacted]

USG Foreign Per Diem Rates

Location	Maximum Lodging	M&IE	Total
Kyiv, Ukraine	243	131	374
Ukraine, other	140	97	237
Gainesville, Florida	94	51	145

[redacted]

#	DTRA Comment	Metabiota Response	Location
1	**Direct Labor - The role of the proposed graduate students is not clear. They are proposed for 1000 hours of direct labor, but the exact nature of the work being done, support being provided, or the expertise that would contribute to the project objectives is not described.**	**Labor narrative has been explained in the proposal.** **In summary, when working with US-based academics, typically the principal investigators (PIs) will only contribute fractional time to any given project while the bulk of the analysis and work is being done by graduate students or post-doctoral employees. The professors provide direction and guidance to the students. This is the model that UP-2 has employed from the beginning.** **Here we expect one (1) graduate student (billing as an RDA) to be working half-time during the 2015-2016 academic year at KSU on data validation, data analysis, and manuscript writing on the land conversion and use portion of the UP-2 project. This will be done under the guidance of [redacted] at KSU.** **Additionally, we anticipate two (2) graduate students (billing as RDAs) to be working part-time (20 hours per student per two-week pay period, that is 25%) during the 2015-2016 academic year at UF on data analysis, GIS mapping, and manuscript development related to the [redacted]**	**Technical Proposal, budget narrative, direct labor**
2	Materials - The proposal indicates that new tires are required for the TAOR Response Vehicle in order to use the TRV to travel to remote regions, however, it is not clear if Metabiota is proposing to replace those tires - no amount is specified for that expense in the budget.	Metabiota is not proposing to acquire tires for the TRV, this was a holdover from an earlier iteration of the document The standalone budget narrative has been updated to remove reference to the tires for the TRV The figures provided in the budget and the corresponding budget narrative represent a good faith estimate at capturing potential costs. As travel is cost-reimbursable only, Metabiota views this figure more akin to a ceiling to travel and thus we tend to estimate on the high side for both travel and costs in order to avoid the need to add additional funding to CLIN 1005 later in the contract. That said, we have tried to improve clarity in the budget narrative around this piece	Budget narrative
3	Travel - The purpose of graduate student travel is not clear. They are proposed for two trips, but there is no clear justification as to why the graduate students are required to travel (same issues as for Direct Labor).	The KSU graduate student will not travel, and the budget narrative has been amended to clarify this The UF graduate student(s) may travel depending on the requirements of the specific trip. In the past, [redacted] (a UF graduate student) traveled to Ukraine to work with both his PI [redacted] and the Ukrainian team involved in GIS mapping activities. As indicated previously, typically the graduate students are deeply involved in the data analysis and thus when odd questions about specific points in the data set or methodology arise, the graduate students are the ones best positioned to provide the clarifications needed to move forward. At this time we still project that the UF students will travel to Kyiv to work on data analysis with the Ukrainians	Technical Proposal, budget narrative
N/A	Travel tab updates	The small mammal sampling / ground truthing trip is obsoleted by events. This eliminates US SME [redacted] travel from Kyiv to Volyn. It also eliminates a further US SME trip ([redacted] ng of 2016 to Kyiv. However, in order to accomplish the data validation, we are now considering bringing 3 Ukrainian participants in the mapping analysis to Gainesville to learn and work on the data validation piece of the biotope mapping/land cover/land use.	Budget file, tab "Travel - Cost Reimburseable", highlighted cells.

Metabiota's Technical and Cost Proposal

"DTRA/CBEP Research Activity Project UP-2:
Incorporating GIS, Remote Sensing, and Laboratory Diagnostics into Human and Veterinary Disease Surveillance for Tularemia and Anthrax in Ukraine (In Ukraine: "Development of the Epidemiological Forecasting System for Zoonotic Diseases Employing GIS Technology"

Technical Direction Number: TD-012
Contract Number: HDTRA1-14-C-0104
CAGE Code: 56SP4
DUNS number: 828131156

Small US Business
Metabiota, Inc.

METABIOTA

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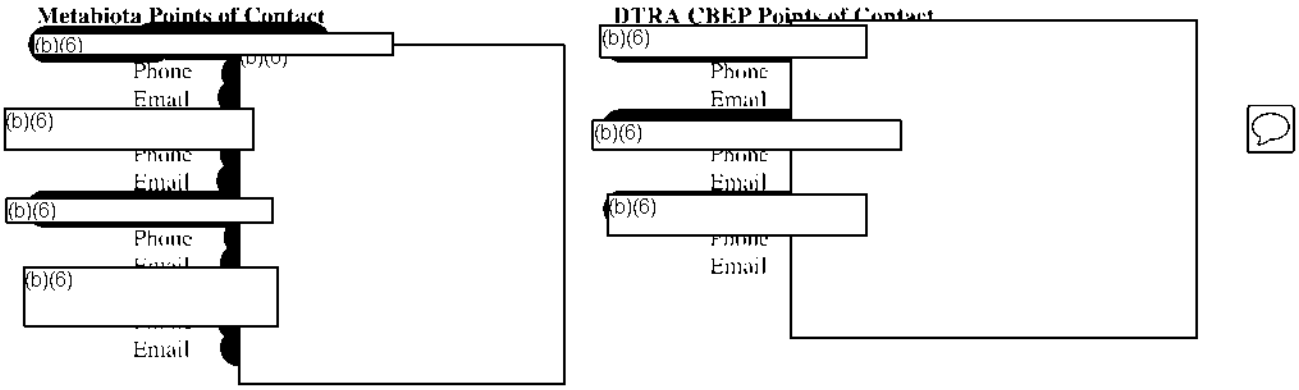

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Executive Summary

In response to Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) regional leadership tasking via the Academic Engagement Partnership (AEP) contract vehicle, Technical Direction 012, Metabiota, Inc. seeks to support the DTRA CBEP mission through the conduction of research to identify the current distribution of especially dangerous pathogens (*F. tularensis* and *B. anthracis)* throughout regions of Ukraine, which is a critical step in mitigating risk of exposure to the aforementioned causative agents. This research effort will help improve disease detection and reporting measures in the Ukrainian human and animal health sectors in support of the DTRA CBEP mission.

This document outlines the approach that Metabiota will employ to accomplish the requirement. In short, Metabiota intends to:

1) Develop a historical GIS-based analyses of tularemia (UCDC) and anthrax (SSCIBSM) data sets, including pathogen passports, field collection records, and field responses (nationwide).
2) Conduct active surveillance for *Francisella tularensis* in ticks and small mammal host populations, with the integration of appropriate culture and PCR-based analyses for detection of the pathogen.
3) Conduct surveillance of livestock herds and environmental sampling for *Bacillus anthracis*, with the integration of appropriate PCR-based detection assays.
4) Develop advanced spatial analyses using GIS and remote sensing approaches to define the geographic distributions of the pathogens and landscape dynamics that effect those distributions.

Project Overview

Introduction

Especially dangerous pathogens (EDPs), including those found naturally in the environment, are a challenge for public health and security infrastructures and pose a significant threat to security and economic stability across the globe. To manage these threats, DTRA CBEP aims to reduce potential impacts of biological threats by enhancing biological safety and security (BS&S), awareness of biological risks, and knowledge related to biological pathogens globally.

To do so, DTRA CBEP works collaboratively with partner nations, other USG agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health; promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner. In CENTCOM, specifically, DTRA CBEP seeks to increase the understanding of natural incidences of pathogens of security concern in Ukraine in an effort to better manage the threat the threat of infectious disease events.

UP-2: Incorporating GIS, Remote Sensing, and Laboratory Diagnostics into Human and Veterinary Disease Surveillance for Tularemia and Anthrax in Ukraine was originally

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developed and implemented under the Biological Threat Reduction Integrating Contract (BTRIC) mechanism in 2011. However, this funding mechanism, including all ongoing research efforts, ceased February 2014. In an effort to complete the original research objectives, DTRA CBEP Ukraine leadership tasked Metabiota with implementing the remainder of UP-2 under the AEP program. Through this activity, Metabiota will conduct high-value research that will support strategic DTRA CBEP objectives by increasing regional collaboration on topics critical to biological threat reduction and enhancing the regional capacity to perform biorisk management and mitigate the threat of infectious disease events.

Goals and Objectives

This activity aims to develop both explanatory and predictive, spatially-explicit models to explore the geography and ecology of EDPs, specifically *Francisella tularensis*, the causative agent of tularemia, and *Bacillus anthracis*, the causative agent of anthrax, across Ukraine. Metabiota will do so by using historical data to explore the distribution, seasonality, and ecology of zoonoses at the national scale, while active surveillance and field efforts will concentrate on local scale patterns of land cover change in relation to disease agent, host, and/or vector distributions.

To achieve these purposes, Metabiota will divide this activity into four specific objective categories to learn from the history of these zoonoses while also proactively managing any future threats. These goals are organized to provide long-term, sustainable teams across UP institutes to maintain this and future efforts. Metabiota and their collaborators will:

1) Develop a historical GIS-based analyses of tularemia (UCDC) and anthrax (SSCIBSM) data sets, including pathogen passports, field collection records, and field responses (nationwide).
2) Conduct active surveillance for *Francisella tularensis* in ticks and small mammal host populations, with the integration of appropriate culture and PCR-based analyses for detection of the pathogen.
3) Conduct surveillance of livestock herds and environmental sampling for *Bacillus anthracis*, with the integration of appropriate PCR-based detection assays.
4) Develop advanced spatial analyses using GIS and remote sensing approaches to define the geographic distributions of the pathogens and landscape dynamics that effect those distributions.

Threat Reduction Outcomes

This research will provide valuable insight into the distribution, causative agents, and threat level of tularemia and anthrax in Ukraine. This will not only be beneficial to Ukraine, but can be used in the global network of research collaborations and for advancing scientific research, including the early detetction of emergent disease threats. Research is critical to capacity building and supports early detection and response to emerging threats, thus safeguarding the world from infectious disease thrests. Scientists working on UP-2 will be trained in molecular diagnostic techniques, which will improve time of detection and, potentially, enable earlier treatment. Additionally, these learned skills could be applied to a variety of non-programmatic and more common diseases that are currently circulating in Ukraine. Early identification and response will mitigate potential loss of human and animal life and associated economic burdens.

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Increased biosafety acumen when working with pathogens, particularly especially dangerous pathogens (EDPs), is a cornerstone of CBEP engagement. As part of this effort, laboratory personnel will be trained to properly implement biosafety protocols, including donning and doffing personal protective equipment (PPE), as required by the agent in question. Participants will be trained in modern field approaches to rodent and tick collection, reservoir identification, and diagnostic analyses. All engaged personnel will be trained to follow internationally recognized reporting measures (e.g., IHR).

Furthermore, as part of the project implementation process, project stakeholders will provide regular updates to DTRA via Contract Data Requirement Lists (CDRLs). Information presented within these reports will help all stakeholders (e.g., USG and host country ministries) understand potential areas of future engagement to further bolster the host countries capabilities.

Through the implementation of Metabiota-facilitated tularemia and anthrax research, DTRA CBEP will have:

- Developed predictive models for the incidence of tularemia and anthrax.
- Improved and enhanced disease detection, reporting and response systems across Ukraine.
- Assisted the adoption and use of safe handling techniques during collection and analysis of samples to include proper handling, transport, and storage of samples.
- Increased scientific capabilities of Ukrainian partners through research collaboration and by fostering an environment of scientific partnership.

Implementation Overview

Metabiota anticipates UP-2 implementation to closely reflect the process successfully completed the first two years of the project under the BTRIC mechanism, which resulted in nine scientific manuscripts published or in review. Importantly, members of the original development and implementation teams have been secured to continue this engagement. In securing the original research team, Metabiota has ensured that all institutional knowledge of UP-2 remains intact, including those relationships with Ukrainian scientists, which took years to foster. Notably, some UP-2 implementing partners currently lie outside of Metabiota AEP authority, including the BTRIC, Walter Reed Army Institute of Research (WRAIR), and University of Florida (UF). The management approach below includes descriptions of how these parties will be managed.

The experimental approach remains consistent with the approach outlined in the Form A that was approved under the BTRIC and the approach documented in the Technical Proposal submitted under the base year of the AEP contract. Project collaborators have identified high priority tasks and strategies for moving forward, which are outlined in the technical approach below.

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Management Approach

Project Team Structure

Metabiota will employ its existing organizational leadership to interface with the Regional Science Manager and Country Manager as needed to direct the operational and administrative support required implement the research project. Our Program Manager will oversee research efforts with the support of a Project Coordinator, Travel Coordinator, Research Collaborators and Subject Matter Experts to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Currently, only Kansas State University is contracted directly through Metabiota AEP. (b)(6) (b)(6) t WRAIR are to be funded via a MIPR with DTRA CBEP. University of Florida is funded through the Penn State University (PSU) AEP vehicle. However, we are proposing to bring UF's Research Collaborators into the Metabiota AEP in October 2015 after their current funding via the PSU AEP expires.

This team of experts will ensure the overall project management and tasks associated with the project are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.

Communications Protocols

Metabiota will maintain open communications with both American and Ukrainian collaborators necessary for implementing the project, including any and all partners facilitating logistics for this effort such as DTRO-K (Defense Threat Reduction Office-Kyiv) and Contractor Logistics Support (CLS). In addition, Metabiota will maintain routine communication with DTRA CBEP to ensure they have full visibility on the research project's effort, status, and process of execution.

Execution

The core project management team will maintain oversight and implementation of the project at all times and will ensure rapid execution of research, tracking objectives to ensure the project stays on schedule to complete the training exercises. The project will be managed according to the phased implementation plan and will be course corrected, as needed to ensure target end-goals are reached. The following tools will be used to guarantee the project schedule will be maintained:

Project Administration:

1. Conference calls will be held twice each month to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Metabiota and will include the Program Manager, Project Coordinator, Travel Coordinator, Research Collaborators, AEP leadership, and Metabiota BTRIC Ukraine personnel as needed based on the requirements and stage of implementation.

2. Routine calls and communication will be held with DTRA CBEP regional leadership and Metabiota to provide routine status updates and ensure successful implementation.
3. Metabiota will sit in the lead position of this project from an administrative standpoint. While we recognize that it is an unconventional arrangement to have a private company lead scientific collaborators from US academic institutions, a US government agency, and foreign government agencies, this structure successfully implemented the first two years of this project.

Project Reporting:

1. Weekly status reports will be provided by the Program Manager to senior Metabiota leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction, as needed to ensure training goals are met.

Monitoring and Controlling

1. Routine risk assessments will be performed internally among the Metabiota project management team to ensure the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine oversight and coordination will be performed to ensure all relevant parties (including DTRO-K, BTRIC Ukraine, and CLS) are performing in-country logistical requirements to ensure successful execution of the training. Monitoring will include both administrative and fiscal oversight.
3. Routine communications will be maintained with DTRA CBEP regional leadership to ensure the project remains on track and is implemented according to standard.

Completion

Metabiota will drive the project to completion by 15 May 2016 by maintaining a focused project schedule with routine meetings and communication with DTRA CBEP regional leadership to allow for continued coordination, while maintaining targeted objectives. As the activity progresses, Metabiota will provide all required deliverables and after action reports to allow for lessons learned and continuation of activity implementation. Metabiota believes that the experience and management it will bring to this project, in collaboration with DTRA CBEP, will guarantee success.

Technical Approach

Key portions of the proposal are highlighted below. Specific technical details on the work to be performed are listed in the attached Form A. Task numbers referenced herein correspond to those from the approved Form A.

Tularemia Project

Project collaborators have identified 3 high priority tasks and strategies for execution:

Priority 1: Task 2.3 PCR and Culture Diagnostics for *Francisella tularensis*
Priority 2: Task 4.3 Remote Sensing
Priority 3: Task 2.1 Survey Methods for Mammals

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Priority 1: Task 2.3 PCR and Culture Diagnostics for Francisella tularensis

All samples collected in the field (1,245 rodents and 5,546 ticks) were transported to UCDC for culture and PCR-based diagnostics of *F. tularensis*. Approximately, 60% of samples have been tested using classical and/or modern diagnostic techniques. Results have been varied, with no positive cultures identified, but with several positive PCR results (b)(6) will travel to UCDC, review the technology and hardware, and implement the collaboratively developed standard operating procedures and safety protocols for the work required. As part of this task, field samples will be analyzed for *F. tularensis*.

UCDC and US personnel are well suited and qualified for the diagnostic work, and the bulk of exposure phase in this study is to biovar B, where risk of infection is less. BSL 2+ (BSC) conditions and protocols will be maintained throughout the project, with the option to work in BSL-3 if a *F. tularensis* isolate is confirmed by bacteriological and PCR tests.

Metabiota's project team will employ a two-pronged strategy of both real-time and conventional PCR for diagnostic work in the *F. tularensis* portion of UP-2, using extracted DNA from both animal blood and culture positive plates at UCDC. First, initial screens will be conducted using real-time PCR assays, unlabeled oligonucleotide primers, and published primer sequences that are proven for the agents. Second, we will use primers for conventional PCR that are highly specific for *F. tularensis* and use this assay to regularly test random selections from the library of strains cataloged in UP-2 field efforts. The conventional PCR assay will detect genetic loci not targeted by the real-time assays and provide QC via direct comparison with the selected real-time PCR assays. This conventional PCR assay will provide a sub-type by PCR of either biovar A (subspecies *tularensis*) or B (subspecies *holarctica*). If feasible, DNA aliquots from PCR-confirmed positives and potential near-neighbors may be sent to the US for further confirmatory validation. The presence of biovar A is not suspected but, if found would indicate a more serious human public health risk and warrant further attention.

Priority 2: Task 4.3 Remote Sensing

Because the distribution of tularemia is affected by both land use and land cover (LULC), development of remotely sensed LULC maps is a major component of the UP-2 project. Prior to suspension of the project, the first phase of land cover mapping was nearly complete. This first phase consisted of mapping LULC at 30m spatial resolution using remotely sensed data from the LANDSAT TM\ETM+ sensor series. The classification scheme used was largely based on the European Environmental Administration (EEA) CORINE classification scheme. It was chosen for the following two reasons: 1) it uses hierarchical, generalized classes that can be decomposed into more detailed land use and land cover categories based on available information, and 2) it is compatible with the EEA EUNIS habitat/biotope mapping scheme, allowing project researchers to more directly relate land cover to the habitat of potential tularemia hosts.

At the time of project suspension, CORINE level 1 and 3 maps had been completed, but not validated. The EUNIS habitat map had not been completed. The three major remote sensing

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tasks for the restarted project will therefore be: convert the CORINE classes to EUNIS categories based on the Level 3 LULC maps, 2) validate the level 1 and 3 CORINE maps and the EUNIS map by field survey, and 3) provide these maps along with a quantitative assessment of their accuracy to the modeling component of activity, using an existing but currently inactive web-based geodatabase.

Conversion of the CORINE map to EUNIS categories is a straightforward process, which will be done using the guidelines outlined in Moss and Davis, 2002. The resulting product will be a 30m resolution habitat/biotope product. The final step in the process will be to relate these "generic" habitat types to the habitat preferences of small mammals in the study area in order to categorize each biotope as potential habitat for specific tularemia hosts. This will be done using a rule-based decision tree classifier, trained using the existing trapping data. Validation of all mapped products will be done via field survey. A stratified random sample of validation sites will be generated for the study site using sampling software tools available in Arc-GIS. These sites will then be visited during the autumn field survey. Each site will be described, photographed, and its land cover and habitat type assessed. For sites where accessibility is difficult, the assessment will be done at a distance using a distal surveying technique developed by the Remote Sensing Research Lab at Kansas State University and used successfully at other field sites (Koch et al., 2007). Once the survey is collected, it will be compared to the LULC maps using standard metrics for evaluating map accuracy (Khorram et al, 2004).

High risk sites (HRS) will be identified in the region by applying previously described methods (b)(6) . Results from the local field surveys and laboratory analyses that detect *F. tularensis* in small mammals generate a spectral signature of HRS by establishing the relationship between the likelihood of a location yielding infected small mammals and the environmental conditions measured by remote sensing data. Depending on the outcome of laboratory testing, alternative models can be developed. Outcome measures of sites yielding either infected animals or not (binary), abundance of infected animals (counts,) or the population density of infected animals (rates) can be used as the outcome to be measured in this design.

Environmental predictors of the outcome are derived from remote sensing data and use the ground truth data obtained during field sampling for final interpretation. Environmental inputs from remote sensing can use the original data, such as reflectance intensities in various portions of the electromagnetic spectrum, land use/land cover classifications or more traditional data products interpreted from the remote sensing data, such as band ratios to identify vegetation greenness, moisture, soil minerals, or drainage patterns.

Once a classifier of *F. tularensis* in mammal populations is identified for the region, a follow-up validation survey is required to confirm the robustness of the results. Predictions of other sites that are likely to have mammals with *F. tularensis* are derived from the remote sensing data and are one of the outputs of the analysis (e.g. see Figures 7 and 8). A final field season will be devoted to randomly selecting and surveying a sufficient number of new locations (40-50 sites as in previous years) to determine if the probability of infection in local mammal populations

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matches that predicted from the model.

Priority 3: Task 2.1 Survey Methods for Mammals

The original UP-2 effort conducted small mammal collections under protocols approved by the Institutional Animal Care and Use Committee (IACUC) of Johns Hopkins University (JHU) and secondarily approved by the U.S. Army's Medical Research and Materiel Command's Animal Care and Use Review Office (ACURO). These approvals have expired in the intervening time period. The original collaborator from JHU has moved to the University of Florida – Gainesville (UF), the home institution of some of the other project collaborators. They are in the process of seeking new IACUC approval through UF. Importantly, no small mammal collection events will take place until approved IACUC and ACURO protocols are in place.

Currently we are anticipating one field expedition in autumn 2015, but may try to execute an additional trip in spring 2016. Historically, during weeklong sampling trips, we have covered five sites early in the week and another set of five sites later in the week. This covers 10 locations during a weeklong trip with an additional day or two for ancillary collections at some sites. During an optional second week of sampling, the sampling scheme will be repeated at 10 new locations. In total, this method has resulted in sampling at ~20 sites during each 2-week spring survey and 20 sites during each 2-week autumn survey. All mammal collections have been mapped with PDA-GIS handheld device and stored for integration into the master GIS stored at UCDC.

Specimens from collected animals will be processed according to protocols for *F. tularensis* detection and frozen tissues and blood samples will be deposited in appropriate transport and storage liquid and go to UCDC. These materials will be accessioned to UCDC. Results of pathogen detection in individual animals will be linked with the capture records to identify the species that are commonly infected, where they occur relative to geographic location and habitat characteristics as well as their demographic characteristics (e.g. sex bias, age bias, season of capture, etc).

Vector surveillance efforts will focus primarily on ticks, with some secondary effort to collect ectoparasites from small mammals surveyed during the project. All tick sampling will accompany mammal collections and occur at each mammal sampling site. Tick sampling is accomplished by two means: flagging/dragging, and collections from animal hosts (Ginsberg and Ewing, 1989). Collection locations will be mapped using handheld GPS devices. Pertinent ecological and environmental data (e.g. vegetative cover, temperature, elevation, slope, aspect, etc.) will be collected for each of the sampling locations in all oblasts and their associated rayons. All data will be downloaded into a database and analyzed using appropriate software, such as ArcGIS.

Anthrax Project

Project collaborators have identified 4 high priority tasks and strategies for execution:

Priority 1: Task 4.2 Ecological Niche Modeling

Priority 2: Subtask 3.1.1 Sampling of Blood from Animals without Clinical Symptoms
Priority 3: Task 3.1 Sampling at Places of Conntemporary and Recent (2-5 years) Anthrax Outbreaks
Priority 4: Task 3.2 Laboratory Analyses

Priority 1: Task 4.2 Ecological Niche Modeling

This study will develop both "ecological niche models" and "distributional models". Ecological niche models are those that develop predicted geographic distributions of a target species' ecological niche. Ecological niche modeling has been shown to be useful in several disease studies (b)(6)

We also will employ the Genetic Algorithm for Rule-Set Production (GARP). GARP is a genetic algorithm that evolves ecological niche models iteratively through training and testing. The outcomes are rule sets, in the form of logic strings, which describe the relationships between the point locality data (outbreak localities) and environmental data layers (b)(6)

(b)(6)

In addition, this study will employ a number of distributional modeling approaches to identify areas of potential disease presence. Distributional models follow a more classical approach to modeling and identifying areas of greatest likelihood for the existing distribution of point localities to occur (b)(6) There are important academic differences in ecological niche and distributional modeling assumptions and predictions, and the exercises will provide modeling experience to UP-2 personnel that will train scientists in academic discussions on modeling approaches.

A large number of environmental data layers that represent global data coverage have successfully been employed in other disease modeling projects. These include raster coverage data sets of soil type, vegetation indices, climatic and precipitation parameters (including several biologically important derivatives of climate and precipitation), elevation, livestock densities, and human population. These data sets are available at several resolutions ranging from 250 m x 250 m to 8 km x 8 km. The UP-2 GIS efforts will leverage these environmental data sets to develop ecological models and spatial analyses to better understand the geographic distribution and transmission cycles of these EDPs.

While the majority of remote sensing proposed in UP-2 will be dedicated to the study of tularemia, we will use the Tasseled Cap (Kauth-Thomas) Transformation (TCAP) on Landsat 5 data for our field sampling sites. Elsewhere, we have successfully identified local-scale conditions on the landscape where soil minerals and organic material are concentrated by topography and hydrology. These identifiable areas have discrete remote sensing signatures that may link outbreak conditions to specific locations on the landscape. We will perform a preliminary TCAP analysis of satellite data specific to the field sampling for anthrax in UP-2.

Site access to veterinary laboratories for foreign scientists has, at times, been challenging. To ensure overall success of this requirement, it is imperative that (b)(6) work

closely with Institute of Veterinary Medicine (IVM) personnel. Should site access issues persist, IVM personnel will travel to the UF's SEER and KSU's Remote sensing laboratories for additional training with (b)(6) respectively.

Priority 2: Subtask 3.1.1 Sampling of Blood from Animals without Clinical Symptoms
Blood will be taken from wild boars through ongoing wildlife sampling for swine fever in Ukraine (outside the scope of this project). Blood samples will be drawn aseptically into sterile tubes containing Na-EDTA. To date, veterinary personnel in UP-2 have up to 1000 serum samples from the past several years. These samples are available for UP-2 to test and map at the rayon level. This work will expand the (b)(6) ork on wild boar anthrax testing.

Priority 3: Task 3.1 Sampling at Places of Contemporary and Recent (2–5 years) Anthrax Outbreaks
If time and schedule permits, we will initiate two 10-day field trips to areas with anthrax outbreaks documented in the last two to five years. When active anthrax outbreaks are reported, the UP-2 field team from IVM will travel to the site, map the outbreak with GPS units, collect samples from dead animals and blood from any living members of the affected herds. We will also initiate soil and environmental sampling efforts in these areas to test for the presence of spores in the area. These sampling trips will focus on recent historical outbreak data and local veterinary knowledge. We will initiate a laboratory inspection and review for biosafety and quality control in the first quarter of this project.

Environmental samples will be taken in sterile bags. Soil at the place of the outbreak will be taken from the depths of 4 cm as well as from the surface of the ground. Grass at the place of the outbreak will be taken near the ground surface or with roots. These materials will be tested for the presence of *B. anthracis* using PCR.

Priority 4: Task 3.2 Laboratory Analyses
For PCR analyses, either the commercially available kit or in-house developed methodologies will be used. In-house primers are designed to perform multiplex PCR using electrophoresis. The in-house methodology comprises the module for total DNA extraction from different types of pathological samples as well as from environmental samples as well as the module for amplification of pX01 and pX02 plasmid markers and 1 chromosomal marker. Additionally, up to 7 chromosomal markers (VNTR locus and gene *sap*) and several markers from both plasmids (*cap*, total *pA* gene) will be amplified and monitored. The set of primers amplifying these markers ensures reliable *B. anthracis* detection and its differentiation from antracoides. DNA aliquots from extraction preparations from new field samples may also be sent to the US for confirmatory molecular diagnostics.

Risk Management
In order to maintain course action and guarantee trainings that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown on the next page as Table 1.

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Identifying and acknowledging the risks associated with not implementing this training, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Schedule						
Project Coordination	UP-2 involves a significant number of parties on both the US and Ukrainian sides, putting implementation activities at risk of delay or cancellation.	5	3	Medium	Establish and hold regular calls with all stakeholders and identify multiple possible implementation dates. Identify critical components as early as possible and redirect efforts when it becomes clear targeted implementation dates will not be achievable.	(b)(4); (b)(6)
Performance						
Political Instability	Ukraine's current political situation may lead to risks of being unable to safely complete in-country work.	3	5	(b)(4); (b)(6)	Metabiota has in-country personnel knowledgeable of the operating environment, and will coordinate closely with DTRO-K and all other relevant parties to operate as safely as possible.	
Procurement of perishable supplies	Some consumables necessary for the implementation of this project must be procured in the US, and shipped via single shipper.	5	4		Work with CLS on streamlining procurement and continue seeking options to procure supplies in country.	Medium
Loss of key research collaborators	Two key research collaborators are only funded through September via PSU AEP.	4	5		Issue a subcontract to UF research collaborators to work via Metabiota AEP.	(b)(4); (b)(6)

Cost Management

The Metabiota team and all partners will maintain an acute focus on cost management to ensure that the training is delivered at a reasonable cost to the government. Our team will provide full oversight to ensure accurate and responsive financial reporting and will facilitate cost savings to wherever possible. Metabiota will follow procurement regulations ensuring the best value is obtained under the time constraints using all means available.

Budget Narrative

Period of Performance

The Period of Performance for this effort is May 16, 2015 to May 15, 2016.

Labor

Costs for direct labor to support this activity is required for the following personnel:

- Metabiota Program Manager: to oversee implementation of the research project to include management of deliverables, logistics, procurement, and tracking of project requirements. The Program Manager will lead coordination activities between US-based research collaborators, DTRA, and the Ukrainian collaborators.
- Metabiota Project Coordinator (Trainer I): to assist in coordinating project activities, to include assisting in management of deliverables, logistics, procurement, tracking of project requirements, deliverables and logistics. The Project Coordinator will assist the Program Manager in the coordination of all Research Collaborators.
- Kansas State University Research Collaborator (Subject Matter Expert III, (b)(6) (b)(6) nd Research and Data Analyst (graduate student to be appointed): to execute remote sensing-related tasks and integrate these data with ecological niche modeling and laboratory analyses. (b)(6) contribution to the project will be: 1) supervision of the completion of the land cover mapping component of the project, 2) lead field excursion to Volyn Oblast, Ukraine to complete validation of land cover mapping component, 3) supervise and contribute to creation of biophysical data layers to support pathogen distribution mapping.
  Graduate student salary is requested to support one research assistant half-time throughout the project. The research assistant will have a 9-month appointment. Duties of the research assistant will include; 1) assist with production of the final product and archiving of land cover maps, 2) acquire remote sensing data and assist (b)(6) in creating biophysical layers, and 3) other tasks as directed by the project PI.
- University of Florida Research Collaborators (Subject Matter Experts III, (b)(6) and (b)(6) and Research and Data Analysts, 2 graduate students to be appointed), to execute animal sampling, GIS mapping, and ecological niche modeling-related tasks and integration with remote sensing and laboratory analyses. These individuals are currently funded through September 2015 via the PSU AEP vehicle. Metabiota AEP is proposing to add these individuals in October 2015 to maintain operational continuity.
  (b)(6) is leading the spatial epidemiology portion of this project, including the GIS mapping and ecological niche modeling related tasks. He also works closely with the collaborators at WRAIR that are focusing on the biological analysis of small mammal and tick samples for tularemia and boar sera and soil samples for anthrax in order to ensure that the data entered into the spatial epidemiology portion of the project is of the highest quality. He is expected to travel to Kyiv to work closely with collaborators at both UCDCM and IVM.
  (b)(6) contribution to the project includes leading small mammal trapping and his involvement in the subsequent data analyses in spatial epidemiology with (b)(6) (b)(6) . He interacts closely with (b)(6) from KSU in order to ensure that the biotope mapping in the land use/land cover portion of the project proceeds as projected. UF is requesting two graduate students at 25% effort (20 hours per student per pay period) during the 2015-2016 academic year to assist with data analysis, GIS mapping, and manuscript development related to the UP-2 project. These students will operate under the guidance of (b)(6)

Additional costs for direct labor supporting the AEP Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials

Materials and supplies are required to support laboratory and field sampling efforts, to include PPE, laboratory reagents and consumables. Every effort will be made to procure materials locally. For those items that cannot be procured in Ukraine, Metabiota will work with CLS to use their single shipper service for transport of those items to Ukraine.

Other Direct Costs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all subcontractors for the period of performance of this project. Metabiota personnel performing on this project are already insured.

Additionally, a subcontract to CRDF will be issued in order to pay Ukrainian collaborators for their time while working on UP-2.

Subcontracts

A subcontract will be issued to Kansas State University for time provided by their staff, as well as computer licenses they will procure in support of this effort. Assuming Metabiota assumes support in October 2015 of the research collaborators from the University of Florida, a subcontract will also be issued to University of Florida for time provided by their staff. Costs are captured under the appropriate labor categories in CLIN 1002 and licenses in CLIN 1003 of the budget.

Travel

International travel is requested to support research partners to facilitate project implementation and conduct training and supportive activities in this effort. ~~We anticipate sending Kansas State University Research Collaborator to Volyn, Ukraine during autumn 2015 to perform remote sensing and ground truthing activities. The proposed project also requires local travel of Ukrainian participants to Volyn to conduct field sampling, remote sensing, and ground truthing research activities in autumn 2015.~~ These trips have been overtaken by events. We are still projecting Ukrainian participants to travel to two (2) sites within the country to do soil sampling, but the staff required will be reduced and no US collaborators will travel on these trips.

Assuming Metabiota assumes support in October 2015 of the research collaborators from the University of Florida, we are also budgeting for two (2) one-week trips to collaborate with laboratorians at UCDC and IVM~~, and one (1) one-week trip for an additional field sampling expedition in spring 2016~~. The additional field sampling expedition in spring 2016 is no longer regarded as feasible and has been struck from potential costs.

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Travel within and to the US is requested to support a new approach to the data validation of the biotope mapping in the land use/land cover portion of the project. Three (3) participants from Ukraine will be brought to Gainesville, Florida to work with (b)(6) (b)(6) KSU) will also require support to travel from Manhattan, Kansas to Gainesville.

Conclusion

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP in the implementation of the UP-2: Incorporating GIS, Remote Sensing, and Laboratory Diagnostics into Human and Veterinary Disease Surveillance for Tularemia and Anthrax in Ukraine. Metabiota will ensure, through strong project management and risk management that the activity will be executed in an efficient and timely manner delivering a top quality research project geared to support enhanced biosurveillance and biosafety efforts in the region.

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Team Metabiota Overview

Metabiota is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science, including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in 20 countries and offices in San Francisco, Washington, China, Canada, and Sierra Leone.

Metabiota currently supports a number of Defense Threat Reduction Agency Cooperative Biological Engagement Program (DTRA CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. Metabiota's mission aligns well with DTRA CBEP, and the entire Metabiota team is focused on supporting our USG Partners in reducing the risk of biological threats worldwide, and employs a collaborative and agile approach to biological risk reduction.

To ensure successful project implementation, Metabiota, in coordination with DTRA CBEP regional leadership and in-country partners have built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGO) whose respective aims could impact DTRA CBEP objectives.

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TD 013 One Health Epi Training - Uganda

Objectives

Increase the operational biosafety and bio-surveillance capacity of Ugandan and Nigerian National and Regional Response Teams through training events and the development of standard operating procedures for emergent disease outbreak response, supporting interagency cooperation and a unified training approach.

Period of Performance: 05/16/2015-02/29/2016

CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$302,676.76	$50,421.31	$252,255.45
1003	$21,054.00	$0.00	$21,054.00
1004	$12,146.51	$0.00	$12,146.51
1005	$45,828.00	$0.00	$45,828.00
TOTAL	$381,705.27	$50,421.31	$331,283.96

CLIN 1002 – Labor

One health Epidemiology training Uganda is a legacy project that required a multi-faceted and specifically talented team to execute the proposal development and initial operational and reporting stages of this effort. Listed below is a breakdown of the labor activity used to support such activities.

Program Manager: 120 Hours

Program Management hours were used to support interim program managers (b)(6) PhD, and (b)(6) was tasked with leading the development of the proposa (b)(6) was tasked with general program oversight during the time before (b)(6) MSPH, would take over the management of the program on a permanent basis (b)(6) set up and led stakeholder meetings and provided direction to the program coordinator to ensure timely submission of CDRLs to DTRA (b)(6) ook over these responsibilities upon his arrival to Metabiota. He set and led additional stakeholder meetings with DTRA CBEP representation that had been deemed necessary, developed a communication protocol with all stakeholders, took over the responsibility for timely submission of all CDRLs, and developed operational solutions to the changing training landscape through thorough communication in in-country stakeholders.

Research and Data Analyst: 97 Hours

(b)(6) activities included the building out of the original technical proposal at the direction of interim Program Manager, (b)(6) , and with input from (b)(6) During the operation phase of this project (b)(6) was tasked under [redacted] gram Manager, (b)(6) with the development of CCR forms, CLS forms, TAF forms, Training Event Plans. She was responsible for maintaining a schedule for the timely submission of the mentioned deliverables, and for overall support to the program manager as tasked. (b)(6) was also responsible for recording and distributing minutes for all stakeholder calls. Research and Data Analyst provided final edits on proposal submission.

Trainer 1: 17 Hours

(b)(6) provided technical support regarding training scheduling and level of effort allocation during the proposal development stage of this proje(b)(6) was also tasked operationally to join bi-weekly stakeholder calls, and to support (b)(6) with the development of training event plans as needed.

Trainer 3: 81 Hours

Hours were allocated to support Metabiota International Training Manage(b)(6), PhD. These hours were used to provide technical expertise with regard to the development and design of the training schedules, and for the development of the training trip report for a training that took place while the technical direction was under FFP.(b)(6) additionally supported permanent program manager(b)(6) by attending stakeholder calls and providing technical expertise as needed; she also provided support to (b)(6) in the development and submission of training event plans as needed.

Subject matter 1: 16 Hours

Hours were used to support Metabiota Program Coordinator(b)(6) (b)(6) provided technical and coordination support during proposal development as well as initial program coordination support. She was tasked to work under the direction of(b)(6) during his interim effort as program manger for this effort.

Subject Matter Expert 3: 17 Hours

Hours were used to support Metabiota Senior Scientist,(b)(6) MD, PhD for the purpose of providing high technical expertise to the program manager during proposal development. He was also tasked with contributing to the development of the initial training trip report.

CLIN 1003 – Materials and Supplies

No Costs Incurred

CLIN 1004 – ODCs

No Costs Incurred

CLIN 1005 – Travel

No Costs Incurred

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Metabiota

Invoice:	INV-0000000239	**Invoice End Date**	7/30/15
Invoice Amount	50,421.31	**Invoice Due Date**	2015-10-08
Remit To:		**Bill To:**	
Metabiota,Inc.		Defense Threat Reduction Agency	
1 Sutter Street, Suite 600		8725 John J. Kingman Rd.	
San Francisco		Ft. Belvoir	
CA		VA	
94104		22060-6201	

TD-013 One Health Epi Training

ansaction Project	PLC Cd	PLC Desc	Name	Bill Hours	Billing Rate	Amount To Bill	Cumulative Hours	Cumulative Amount
01021.01.102.AF	PM100	Program Manager	(b)(4); (b)(6)	3.00	$	(b)(4); (b)(6)	3.00	$ (b)(4); (b)(6)
01021.01.102.AF	PM100	Program Manager		56.00	$		56.00	$
01021.01.102.AF	PM100	Program Manager		61.00	$		61.00	$
01021.01.102.AF	RA100	Research and Data Analy		97.00	$		97.00	$
01021.01.102.AF	SME10	Subject Matter Expert 1		16.00	$		16.00	$
01021.01.102.AF	SME10	Subject Matter Expert 3		17.00	$		17.00	$
01021.01.102.AF	T1000	Trainer 1		17.00	$		17.00	$
01021.01.102.AF	T10002	Trainer 3		81.00	$		81.00	$
TOTAL CLIN 1002				**348.00**			**348.00**	**$**
TOTAL INVOICE				**348.00**			**348.00**	**$**

TD 013 One Health Epi Training - Uganda

Objectives

Increase the operational biosafety and bio-surveillance capacity of Ugandan and Nigerian National and Regional Response Teams through training events and the development of standard operating procedures for emergent disease outbreak response, supporting interagency cooperation and a unified training approach.

Period of Performance: 05/16/2015-02/29/2016

CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$302,676.76	$122,031.75	$180,645.02
1003	$21,054.00	$107.38	$20,946.62
1004	$12,146.51		$12,146.51
1005	$45,828.00	$11,090.11	$34,737.89
TOTAL	$381,705.27	$133,229.23	$248,476.04

CLIN 1002 – Labor

Program Manager: 150.5 Hours

(b)(6) served as the program manager for this effort, providing facilitation and oversight. His efforts included leading separate biweekly calls with both DTRA CBEP representation and CDC Uganda as the in country performer. He oversaw completion and submission of all required travel and training documentation to include the Training event plan, CLS coordination, Travel Cost Estimates and the training trip report. He submitted all mentioned travel and training CDRLs in support of Cohort 9 Module 2 training set to take place in Jinja, Uganda. He submitted all mentioned travel and training CDRLs in support of Cohort 10 Module 1 set to take place in Kabarole, Uganda (b)(6) traveled to Jinja, Uganda in support of the Cohort 9 Module 1. He worked to manage the visiting Metabiota Project Team during all in country operations. He participated in, and led, daily pre training meetings. He observed the training in full, and lead all efforts to compile trip notes. During the trainings (b)(6) was also tasked with the coordination and management of epidemiology expert trainer and Metabiota Independent Consultar (b)(6)

Research and Data Analyst: 179 Hours

(b)(6) coordinated bi-weekly stakeholder meetings. She prepared agendas and meeting minutes for both DTRA CBEP communications as well as CDC Uganda Communications. She assisted with completion of travel documents including the CLS forms, CCR forms, Bills of material, and travel authorization forms. (b)(6) also assisted with the completion of the independent consultant agreement form for trainer (b)(6) She coordinated and participated in pre-travel trip plans, and worked with Metabiota travel coordinator (b)(6) to ensure that visas, flights, ground transportation, and international communication capacity were available for the traveling team. During the training (b)(6) sereved as the main contact point for program manage (b)(6) She was responsible for daily check ins and responding to any issues that came up. Upon completion of the travel and training (b)(6) was responsible for compiling and editing the team notes in support of the training trip report. She was finally responsible for communicating with CDC Uganda to ensure that any missing information from team travel reports was filled in.

Trainer 1: 132.5 Hours

Metabiota Epidemiologist (b)(6) was responsible for the development and completion of the pre-training and travel risk report. (b)(6) was also responsible for attending Bi-weekly calls with both DTRA CBEP and CDC Uganda. He was finally tasked to participate in all pre travel planning efforts.

(b)(6) assisted with completion of Cohort 9 module 1 training. Local National Metabiota Independent Consultant (b)(6) served as lead trainer during the event, and gave daily lectures to the training participants.

(b)(6) provided training oversight by taking observational notes throughout the entirety of the lecture (b)(6) also participated and engaged the trainees during breakout sessions.

Both (b)(6) were tasked to attend and or participate in every lesson presented during module 1 of cohort 9. They were additionally tasked to participate in daily pre-training meetings.

Subject Matter Expert 3: 91.5 Hours

Metabiota Senior Scientist (b)(6) traveled to Uganda as part of the project team in order to oversee implementation of Cohort 9 Module 1 (b)(used his extensive expertise in the field to provide expert advice to both the trainers and implementers during and before each daily training sessio (b)(6) recorded notes during the trainings and offered comments on both the materials and presentation as a whole.

(b)(6) was additionally involved in bi-weekly calls with both DTRA CBEP representation and CDC Uganda. He was additionally tasked to participate in all pre-travel planning activies.

CLIN 1003 – Materials and Supplies

Costs were incurred to maintain international communications throughout the training in October - Cohort 9 Module 1 in Jinja, Uganda. Costs included the acquisition of cellular communication credit to support local and international emergency calling, as well as cellular credit to provide backup online access in lieu of Wi-Fi provided by the hotel.

CLIN 1004 – ODCs

No costs invoiced

CLIN 1005 – Travel

Travel costs invoiced include air travel fo (b)(6) to travel to Uganda to complete the October training of Cohort 9 Module 1. Travel costs also include the hiring and fueling of a manned 4X4 vehicle in country. Further travel costs included those to support per-diem needs for all travelers an (b)(6) . All lodging for the Metabiota project team and (b)(6) was expensed to this category.-diem In addition charges for late cancellation of flights due to last minute training cancellation are being invoiced along with supporting documentation.

Metabiota

TO-013 One Health Epi

CLIN 1002 Labor

NAME	LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED
(b)(4); (b)(6)	Program Manager	$	150.50	$	206.50	$
	Program Manager	$	0.00	$	3.00	$
	Program Manager	$	0.00	$	61.00	$
	Research and Data Analyst	$	179.00	$	276.00	$
	Research and Data Analyst	$	60.00	$	60.00	$
	Subject Matter Expert 1	$	0.00	$	16.00	$
	Subject Matter Expert 3	$	91.50	$	108.50	$
	Trainer 1	$	72.50	$	89.50	$
	Trainer 3	$	0.00	$	81.00	$
			553.50	$	901.50	$

(b)(4); (b)(6) (b)(4); (b)(6) (b)(4); (b)(6)

CLIN 1003 Materials

TRANSACTION		CURRENT INVOICE	CUMULATIVE INVOICED
(b)(4); (b)(6)	Communications	$ 75.00	$ 75.00
	Communications	$ 27.00	$ 27.00
		$ 102.00	$ 102.00
			$
			$

(b)(4); (b)(6) (b)(4); (b)(6)

CLIN 1005 Travel

TRANSACTION		CURRENT INVOICE	CUMULATIVE INVOICED
(b)(4); (b)(6)	Per Diem	$ 55.50	$ 55.50
	Per Diem	$ 74.00	$ 74.00
	Per Diem	$ 74.00	$ 74.00
	Per Diem	$ 74.00	$ 74.00
	Per Diem	$ 74.00	$ 74.00
	Per Diem	$ 74.00	$ 74.00
	Per Diem	$ 74.00	$ 74.00
	Per Diem	$ 74.00	$ 74.00
	Per Diem	$ 58.00	$ 58.00
	Per Diem	$ 43.50	$ 43.50

Batudam Afric Adv Safaris	Travel: Frgn Rent Car Gas	$	590.00	$	590.00
Batudam Afric Adv Safaris	Travel: Frgn Rental Car	$	800.00	$	800.00
Cancellation Charge	Charge for costs incurred due to late cancellation of OHE Training in July.	$	786.00	$	786.00
[redacted]	Business visa for [redacted]	$	393.97	$	393.97
	Per Diem Allocatio[redacted]	$	247.00	$	247.00
	Transportation Reimbursement	$	80.00	$	80.00
	Travel: Foreign Lodging	$	360.00	$	360.00
	Transfer to/from [redacted]	$	169.20	$	169.20
	Flight issued fo[redacted]	$	1,616.74	$	1,616.74
	Flight issued for [redacted]	$	1,616.74	$	1,616.74
	Service fee for flight issued	$	43.00	$	43.00
	service fee for flight ticket	$	43.00	$	43.00
	UG business vis[redacted]	$	181.13	$	181.13
	UG business vis[redacted]	$	181.13	$	181.13
	Transfer to/from IAD for Vince	$	187.20	$	187.20
	Travel: Foreign Lodging	$	3,120.00	$	3,120.00
				$	-
		$	11,090.11	$	11,090.11
	TOTAL INVOICE	$	[redacted]		

METABIOTA

Metabiota, Inc.

CASH RECEIPT

Name of Recipient (b)(6)

Purpose of expence Communication fees for OHE Training, Jinja, 18-24 October 2015

Project Number

Amount (in digits and in words) $75 / seventy five US dollars

Date October 21st 2015

Signature of Recipient

(b)(6)

Handled by

(b)(6)

TD 13 #1

Materials

PMTS Ltd, Authorised Distributors of Airtel Products

PMTS
Limited

P. O. Box 4522
Kampala,
Uganda

Mob: 0702 400 648
Or 0706 384 770
Or: 0778 384 770

GENERAL RECEIPT

No.

Date: 17/10/16

Received with thanks from: (b)(6)

The sum of: Twenty Seven US dollas: ($27)

Being payment for: Airtel Airtime and Antel Data Card

Cash/Cheque No.

Balan

Shs. $ 27.00

Signed: (b)(6)

TED

TD 13 #2
Materials

Ground Transportation Request for 17 October – 24 October 2015

Date	Pick up – to and from	Estimated cost of fuel	Cost of 4x4 vehicle hire
17 October	2 persons – pick up at Entebbe airport hotel and drive to Jinja district		$100
18 October	2 persons – transportation in Jinja		$100
19 October	2 persons – transportation in Jinja		$100
20 October	2 persons – transportation in Jinja		$100
21 October	2 persons – transportation in Jinja		$100
22 October	2 persons – transportation in Jinja		$100
23October	2 persons – transportation in Jinja		$100
24 October	2 persons - 11am drive from Jinja to Entebbe airport		$100
	Total	$590	$800

Cost of vehicle hire including a driver + cost on fuel = $800 + $590 =**$1390**

YOU ARE REQUIRED TO PAY $1390

Please note the price above is in ***AMERICAN DOLLARS(US)***

Price includes;

- ***Vehicle and an English speaking driver***
- ***Fuel***
- ***Bank transfer charges***

Payment terms: 100% Payment upon booking this contract.

Bank transfer to (b)(4); (b)(6)

Barclays Bank Uganda Ltd. - Kampala - P.O. Box 75718

SWIFT C

Account (b)(4); (b)(6)

TD 13 #1 #2

Travel

BATUDAM
UGANDA
RWANDA
KENYA
TANZANIA
AFRICAN ADVENTURE SAFARIS

P.O.BOX 75718, Kampala Uganda. Offices, AbayitaAbabiri-Entebbe Uganda.
Tel: (b)(6) Email: info@batudamsafaris.com
www.batudamsafaris.com

Head Office for East Africa

AbayitaAbabiri EntebbeUganda.

P.O.BOX 75718, Kampala Uganda

Tel:

Mobile (b)(6)

Email: **info@batudamsafaris.com**

VEHICLE HIRE SERVICE

TD 13 #16 #26

07/09/2015	Foreign Travel: Airfare	to attend OHE Uganda	DELTA AIR LINES	Atlanta	American Express Corporate Card CBCP	$-1,995.40	No

Comment : (b)(6) 07/16/2015) refunded airfare when trip cancelled

07/09/2015	Foreign Travel: Airfare	to attend OHE Uganda	DELTA AIR LINES	Atlanta	American Express Corporate Card CBCP	$-1,995.40	No

Commen (b)(6) 07/16/2015). Refund of (b)(4); ticket that was put on my Amex card

07/01/2015	Foreign Travel: Airfare	to attend OHE Uganda training	TRAVEL AGENCY SERVICES	Arlington	American Express Corporate Card CBCP	$43.00	No

Comment : (b)(6) 07/16/2015): travel agency service charge

07/01/2015	Foreign Travel: Airfare	to attend OHE Uganda training	DELTA AIR LINES	Atlanta	American Express Corporate Card CBCP	$2,345.40	No

Comment : (b)(6) 07/16/2015): airfare to attend OHE Uganda training, training was cancelled

07/01/2015	Foreign Travel: Airfare	to attend OHE Uganda training	DELTA AIR LINES	Atlanta	American Express Corporate Card CBCP	$2,345.40	No

Comment : (b)(6) (07/16/2015) (b)(6) put both tickets on my AMEX card

07/01/2015	Foreign Travel: Airfare	to attend OHE Uganda	TRAVEL AGENCY SERVICES	Arlington	American Express Corporate Card CBCP	$43.00	No

Comment : (b)(6) (07/16/2015): travel agency service charge

Report Total :	$786.00
Personal Expenses :	$0.00
Total Amount Claimed :	$786.00
Amount Approved :	$786.00
Company Disbursements	
Amount Due Employee :	$0.00
Amount Due Company Card :	$786.00
Total Paid By Company :	$786.00

TD 13 # 3a
Travel

Hi (b)(6)

Below are copies of the eticket records showing that they have each been refunded (as noted by the highlighted "R").

Please note that the tickets were refunded minus the $350 airline fee.

Please let me know if you have questions or need additional information.

TKT-0067625357796 RCI- 1A LOC-8BOQJD
OD-WASWAS SI-SITI FCMI-0 POI-DCA DOI-01JUL15 IOI-21535603
1 (b)(6) ADT ST
1 OIAD DL9385KL U 10JUL1745 OK UH1SFUS R 2PC
2 XAMS DL9609KL U 11JUL1255 OK UH1SFUS R 2PC
3 OEBB DL9337KL Q 18JUL2330 OK QH1SFUS R 2PC
4 XAMS DL9384KL Q 19JUL1300 OK QH1SFUS R 12JUL 2PC
IAD
FARE F USD 1605.00
TOTALTAX USD 740.40
TOTAL USD 2345.40
REFUND PENALTY 350.00
REFUND USD 1995.40

/FC WAS DL X/AMS DL EBB M690.00UH1SFUS DL X/AMS DL WAS M915.00QH
1SFUS NUC1605.00END ROE1.000000XF IAD4.5
FE REF WITH FEECHG FEE APPLIES -BG DL
FP CCAXXXXXXX1352/0419/A197654
FT US0029439
FOR TAX/FEE DETAILS USE TWD/TAX
FREQUENT FLYER KL-2124416640
SAC-0060121364385

TKT-0067625357795 RCI- 1A LOC-8BOQJD
OD-WASWAS SI-SITI FCMI-0 POI-DCA DOI-01JUL15 IOI-21535603

TD 13 # 36
Travel

1 (b)(6) DT ST

1 OIAD DL9385KL U 10JUL1745 OK UH1SFUS R 2PC
2 XAMS DL9609KL U 11JUL1255 OK UH1SFUS R 2PC
3 OEBB DL9337KL Q 18JUL2330 OK QH1SFUS R 2PC
4 XAMS DL9384KL Q 19JUL1300 OK QH1SFUS R 12JUL 2PC
IAD
FARE F USD 1605.00
TOTALTAX USD 740.40
TOTAL USD 2345.40
REFUND PENALTY 350.00
REFUND USD 1995.40

/FC WAS DL X/AMS DL EBB M690.00UH1SFUS DL X/AMS DL WAS
M915.00QH
1SFUS NUC1605.00END ROE1.000000XF IAD4.5
FE REF WITH FEECHG FEE APPLIES -BG DL
FP CCAXXXXXX1352/0419/A197654
FT US0029439
FOR TAX/FEE DETAILS USE TWD/TAX
FREQUENT FLYER AF-1021849414
SAC-0060121730877

Kind regards,

(b)(6)

TD 13# 3C
Travel

Printable Version

ETICKET RECEIPT IS ATTACHED
PLEASE REVIEW YOUR ITINERARY CAREFULLY
DISCREPANCIES MUST BE BROUGHT TO OUR ATTENTION WITHIN 24 HOURS
AFTER THAT TIME ANY PENALTIES INCURRED DUE TO CHANGES ARE THE RESPONSIBILITY
OF THE TRAVELER.

Kentlands Travel

UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone (301) 948-2448

Passenger(s):	(b)(6)	**Booking Ref.:**	BBOQJD
Invoice No.:	69304	**Agent:**	(b)(6)
Issue Date:	Wednesday July 1 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

- If you would like to view your reservation online: Click Here
- For Aircraft Disinsection Requirements: Click Here

AIR - Friday July 10 2015

Delta Air Lines Flight DL9385 Economy Class
Operated By Klm Royal Dutch Airlines
Check In With KLM Royal Dutch Airlines (KL652)

Check In Confirmation: G7X4JS

Depart:	5:45 PM, Friday, July 10 Dulles Intl Airport Washington, Dist of Columbia USA	**Arrive:**	7:30 AM Saturday, July 11 Schiphol Airport Amsterdam, Netherlands
Status:	Confirmed		
Booking Code:	U (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	7 hours 45 minutes		
Seat:	43D (Non smoking) Confirmed 28H (Non smoking) Confirmed	(b)(6)	
FF Number:	AF10218494	(b)(6)	
Meal:	Vegan Meal		Confirmed

Weather Flight Status (up to 3 days prior)

AIR - Saturday July 11 2015

Delta Air Lines Flight DL9609 Economy Class
Operated By Klm Royal Dutch Airlines
Check In With KLM Royal Dutch Airlines (KL561)

Check In Confirmation: G7X4JS

Depart:	12:55 PM, Saturday, July 11 Schiphol Airport Amsterdam, Netherlands	**Arrive:**	9:45 PM, Saturday, July 11 Entebbe Intl. Airport Entebbe, Uganda
Status:	Confirmed		
Booking Code:	U (Economy)		
Equipment:	Airbus Industrie A330-200	**Stops:**	Non-stop
Duration:	7 hours 50 minutes		
Seat:	31F (Non smoking) Confirmed 33F (Non smoking) Confirmed	(b)(6)	
FF Number:	AF1021849414	(b)(6)	

TD 13# 3d
Travel

Meal: None

•Weather •Flight Status (up to 3 days prior)

AIR - Saturday July 18 2015

Delta Air Lines Flight DL9337 Economy Class
Operated By Klm Royal Dutch Airlines
Check In With KLM Royal Dutch Airlines (KL562)

Check In Confirmation: G7X4JS

Depart:	11:30 PM, Saturday, July 18 Entebbe Intl. Airport Entebbe, Uganda	**Arrive:**	6:50 AM, Sunday, July 19 Schiphol Airport Amsterdam, Netherlands
Status:	Confirmed		
Booking Code:	Q		
Equipment:	Airbus Industrie A330-200	**Stops:**	Non-stop
Duration:	8 hours 20 minutes		
Seat:	35G (Non smoking) Confirmed 43G (Non smoking) Confirmed		
FF Number:	AF10218494[redacted]		
Meal:	None		

•Weather •Flight Status (up to 3 days prior)

AIR - Sunday July 19 2015

Delta Air Lines Flight DL9384 Economy Class
Operated By Klm Royal Dutch Airlines
Check In With KLM Royal Dutch Airlines (KL651)

Check In Confirmation: G7X4JS

Depart:	1:00 PM, Sunday, July 19 Schiphol Airport Amsterdam, Netherlands	**Arrive:**	3:30 PM, Sunday, July 19 Dulles Intl Airport Washington, Dist. of Columbia, USA
Status:	Confirmed		
Booking Code:	Q		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	8 hours 30 minutes		
Seat:	28E (Non smoking) Confirmed 28F (Non smoking) Confirmed		
FF Number:	AF10218494[redacted]		
Meal:	Vegan Meal[redacted]firmed		

•Weather •Flight Status (up to 3 days prior) •Printing Reservations

Invoice Details

Transaction / Document	Base	Tax	Total
Delta Air Lines / 006 7625357795 [redacted]	1605.00	740.40	2345.40
Form of Payment: AX XXXXXXXXXXXX1352			
Delta Air Lines / 006 7625357796 [redacted]	1605.00	740.40	2345.40
Form of Payment: AX XXXXXXXXXXXX1352			
Processing Fee / 890 0658402548 [redacted]	43.00		43.00
Form of Payment: AX XXXXXXXXXXXX1352			
Processing Fee / 890 0658402549 [redacted]	43.00		43.00
Form of Payment: AX XXXXXXXXXXXX1352			
Totals:	3296.00	1480.80	USD 4776.80

Total Charged to Credit Card: USD 4776.80
Balance Due: USD 0.00

TD 13#3e
Travel

Subject: FW: Draft Invitation Letters for the District Level Epidemiology Training (July 13 - 17, 2015)
Date: Wednesday, July 8, 2015 at 4:08:04 PM Eastern Daylight Time
From: (b)(6)
To:

I did not see your name copied on this one, but maybe it was? FYI and forwarding anyway.

On 7/8/15, 3:47 PM, (b)(6) TRA J3-7 (US)" (b)(6) wrote:

All,

At this point, I am unable to confirm the location of the training (and it sounds from separate emails from the CDC team that Wakiso is no longer the preferred location anyway), nor am I sure of the employment status of the trainers... per CDC's (b)(6) last email to me, the trainers are not necessarily MoH employees, but that leaves open the question as to who these trainers are then in the first place, if they are not part of the MoH. The LoIs to the trainees would be sent very late at this point as well, so participation would likely be lower than it should.

I therefore ask that this training be deferred.

What I need from each party for this training to take place in the future...

CDC (b)(6)

1. The status of the trainers. Are they CDC employees, or MoH employees, or otherwise? If they are employees of the Government of Uganda, then they will receive no independent consulting agreements, or payments, through Metabiota or TTI/CLS or anyone else, for that matter.

2. Updated training event info to reschedule this training for August / September (i.e., date, location/venue, trainees, etc.) so that Metabiota can update and resubmit a CLS form for processing by TTI.

3. New letters of invitation specifying who is receiving per diem/financial/logistical support, and in what amount, and for what purpose.

Metabiota (b)(6)

1. Based on the answer above, I may give revised technical direction to set up contracts for the payment of the trainers if and only if they are

TD 13 # 3f

not under the employ of the Government of Uganda.

2. A revised CLS form for the rescheduled training utilizing the info from CDC requested above

VR,

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Tuesday, July 07, 2015 3:32 PM
To: (b)(6)
(
Cc:

Subject: Re: Draft Invitation Letters for the District Level Epidemiology Training (July 13 - 17, 2015)

Much appreciated (b)(6)

We will standby and await feedback from (b)(6) : your conditions below.

Per the Ambassadors memo and your guidance below, we will not establish Independent Consulting Agreements with the trainers.

If it is determined that trainers will conduct training sans additional payment, and other conditions are okay, our team is ready to travel to Uganda in support of this training event.

Best regards,
(b)(6)

On 7/7/15, 3:17 PM, (b)(6) wrote:

(b)(6)

We will confirm with CLS/TTI ASAP the name and location of the venue in Wakiso; this information will likely be available first thing tomorrow morning. However, please confirm that the training can continue under the following conditions:

1. Trainers are not given extra payments

2. Training remains in Wakiso

3. Training can proceed if you get this information in the next 24

TD 13# 39

hours (i.e., given that the training is supposed to start in less than a week, are we already too late for sending the LoIs... will we get the trainees we're inviting at this late hour?)

(b)(6)

Although technical direction should probably come from (b)(6) understand you spoke with (b)(6) about needing direction from DTRA on whether MB should conduct the training themselves and whether trainers should be paid extra or not. To clarify: per the Ambassador's memo, trainers are not to receive extra payments, nor are we asking Metabiota to conduct the training themselves.

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Tuesday, July 07, 2015 5:30 AM
To: (b)(6)
Cc:
Subject: RE: Draft Invitation Letters for the District Level Epidemiology Training (July 13 - 17, 2015)

(b)(6)

I just discussed some of these issues with (b)(6) As i have not been involved with these before, ill do my best to explain below the pressing issues we need to address, hopefully by today.

1. I think the issue about the per diems, allowances, etc from the Ambassadors memo are understood and will be communicated to the participants. I also believe the coordination has been taking place.
The issue has been communication with (b)(6)
(b)(6) has not been in communication with (b)(6) nd given or confirmed to them the exact name and location of the venue. They are not able to put this on the LOI's that need to be sent out. Just stating "Wakiso" isn't sufficient.
3. If the venue hasn't been confirmed by (b)(6) r it's able to be changed at this point, we would prefer it either be moved to (b)(6)
(b)(6) Entebbe location will allow better coordination by (b)(6) since they are not allowed to stay at the Wakiso venue during the week due to local USG travel restrictions. They will also need to lock up and transport all laptops each night and set them up each morning if they aren't staying at the venue. If it can be in Entebbe, this will make it easier to handle logistics for setting up the trainings.
4. If the venue can be changed to Jinja, then we can more easily bring

TD 13# 31
TITAN01

all participants and coordination staff, and allow for them to stay at the venue.
5. At least 5 participants are from the Wakiso/Kampala area and aren't eligible for allowances. We will likely loose these participants attendance because, depending on the venue location, they will not be able ot travel on their own each day to attend. These people will likely have to be included in the next out of town training.

We need for someone at DTRA to communicate to (b)(6) d have them tell (b)(6) he exact venue name and location, or have them change the venue to one of the above options. After this, we can send LOIs and then work on logistics for setting up and managing the training for the week.

Thank you,
(b)(6)

From: (b)(6)
Sent: Monday, July 06, 2015 4:12 PM
To (b)(6)
Cc
Subject: FW: Draft Invitation Letters for the District Level Epidemiology Training (July 13 - 17, 2015)

(b)(6)

After reviewing the letters of invitation (LoIs) to the trainings, I wanted to highlight a few things:

1. The training will be held in Wakiso district, and that there is a statement in the LoIs that staff based in Wakiso will not be receiving per diem / logistical or financial support, which is great.

2. No per diem amounts or services (such as transport refunds or accommodations, which are referenced in the CLS) are specified for receipt by trainers or trainees; only that they won't receive per diem if they do not attend all classes. I was previously informed that we were getting resistance from the MoH trainers and trainees based on the amounts / support they received was not in line with what they were promised in their LoIs, but this doesn't seem to be the case here.... either way, please someone let me know what document they (i.e., the trainees/trainers) will reference if they request further services/support or are dissatisfied with any support they receive. It may be best to include a line explaining what the per diem is intended for (e.g., "to cover your meal and incidental expenses during your

TO 13#3
Travel

participation" or something similar). Additionally, the CLS form should

3. Given that I've been receiving separate emails from each of you on this subject, has the pre-coordination with development of LoIs and planning for training not occurred, per our request during the teleconference between all OHE stakeholders/parties held the week of 21 May (b)(6) sking for confirmation of the location, where the letters (b)(6) ent clearly show the location being Wakiso.... not being critical, but having such pre-training teleconferences or meetings, as we agreed would happen, would prevent me from being the limiting factor/roadblock in planning these events, if I am otherwise occupied or out of office.

4. Per the AMB's memo, no salary "top-ups" for trainers are authorized. The attached memo (b)(6) sent dated May 6th, 2014 negotiates what we will pay for "facilitation fees", "honoraria", or otherwise "top-ups"
for trainers, but this memo is superseded by the Ambassador's memo, dated April 8th, 2015.... so no facilitation fees are to be paid.

5. For everyone on the Ugandan side, 140,000 UGX is the most we can pay (per Ambassador's memo referenced above), so whatever the exchange rate may be, that is the amount each individual based outside of Wakiso is to receive. The following individuals are listed on the last CLS I saw as being from Wakiso and therefore should not be receiving extra payments... (b)(6)

(b)(6)

If I got anything wrong here from your perspective, please let me know. I don't want to damage our relationship with the MoH but things like the AMB's memo superseding the CDC-MoH discussions over "top-ups" and "facilitation fees" seems pretty clear to me, despite what we've previously discussed or agreed to.

All,

I do hope these LoIs go out tomorrow, pe (b)(6) quest, and that I receive a revised CLS with payments and services being in line with CBEP and Embassy regulations, but if this can't happen, we may need to postpone or cancel the training

(b)(6)

From: (b)(6)
Sent: Thursday, July 02, 2015 7:56 PM
To (b)(6)
Cc

TD 13# 3k
Travel

Subject: RE: Draft Invitation Letters for the District Level Epidemiology Training (July 13 - 17, 2015)

Dear (b)(6)

Any form of feedback is welcome. We have held off sending out the invitations pending your response to the draft invitation emails.

Many thanks and kind regards,

(b)(6)

From: (b)(6)
Sent: Wednesday, July 01, 2015 6:41 AM
To: (b)(6)
Cc:
Subject: Draft Invitation Letters for the District Level Epidemiology Training (July 13 - 17, 2015)

Dear (b)(6)

Please find attached draft invitation letters addressed to the trainers and trainees respectively; for this month's training. Any feedback will be highly appreciated.

Many thanks and kind regards,

(b)(6)

Subject: Re: Request for consideration - tentative travel request - UG - Clinician Training/6-10 July and OHE/13-17 July

Date: Friday, June 12, 2015 at 3:14:01 PM Eastern Daylight Time

From: (b)(6)

To:

CC:

Approved.

Cheers,

(b)(6)

Email: (b)(6)

Mobile

Sent from my iPhone

On Jun 12, 2015, at 9:15 PM (b)(6) wrote:

Dear Dr. (b)(6)

For you consideration, please find attached a travel request for activities tentatively scheduled for 6-17 July in Uganda. As discussed on the 21 May DTRA call, all necessary travel documents (CCR's and Training Event Plans) have been submitted and approved. Metabiota is requesting travel authorization in support of a Clinician Training event in Fort Portal, Uganda (6-10 July) and a One Health Epi training event in Hoima, Uganda (13-17 July).

We recognize that the OHE event in Hoima may not take place. Per conversations held with project stakeholders on 21 May, Metabiota is awaiting guidance from DTRA and the US Embassy in Uganda to determine appropriate levels of support for project trainees and trainers. Additionally, Metabiota has not received a Letter of Technical Direction for OHE training activities.

We are submitting the attached travel request in case trainings are approved.

Please do not hesitate to contact us if you have any questions.

Best regards,

(b)(6)

<Travel_Authorization (b)(6) Trainings. July2015v2.xls>

TD 13#3M
Travel

INVOICE

VisaCentral
A CIBT COMPANY

VisaCentra
1600 International Drive
Suite 600
McLean, VA 22102
visacentral.com

Invoice Number: 492816

Date: 07/23/15

Account Number: (b)(6)

Billing Reference:

Order Number: US550445

Traveler	Description	Qty	Price	Net
(b)(6)	Form Fill	1.0	$ 75.00	$ 75.00
	Uganda Tourist (ME - 1Y - 7D) Consular Fee Entry 8/3/15 | Exit 8/13/15	1.0	$ 100.00	$ 100.00
	Uganda Tourist Standard Service Fee	1.0	$ 114.00	$ 114.00
	Form Fill Standard Service Fee	1.0	$ 75.00	$ 75.00
	Non Online Order Fee	1.0	$ 20.00	$ 20.00
	Consular Processing Fee (5.7%)	1.0	$ 9.97	$ 9.97

VisaCentral is a trade name of CIBT Inc

Billing Questions?

Contact customer service at 877-971-9767

EIN# 52-1631723

Time	Payment Type	Amount
7/23/15 2:23 PM	American Express 1329 (US550445-1) 145097	393.97

Invoice Total	$ 393.97
Payment By Credit Card	$ 393.97
Balance Due	$ 0.00

TD 13 #4

Travel

METABIOTA

Metabiota, Inc.

CASH RECEIPT

Name of Recipient (b)(6)

Purpose of expence Reimbursement for ground transportation to and from Jinja, Uganda on 18 and 24 October2015

Project Number

Amount (in digits and in words) $80 / eighty US dollars

Date OCtober 21st 2015

Signature of Recipient

(b)(6)

Handled b[redacted]

(b)(6)

TD 13 # 5

Travel

Airport View Hotel

Tax invoice

TIN NO 1000337347
VAT NO 43844-U

34 Kiwafu Close, Entebbe
P O Box 247 Entebbe
Tel +256 312 261751 / 755
Mob +256772221381 / 772507975 / 772200391
Email: airportviewhotel@googlemail.com
www.airportviewhotelpaanpa.com

NO AVH GEN 0967

Meeting and Travel Coordinator
Metabiota Inc , AEP Program

Email: (b)(6)
Work: [redacted]
Mobile: (b)(6)
Skype: [redacted]

30th September 2015

Attention: [redacted]

REF Accommodation for (b)(6) [redacted] on 17th October 2015

Date 2015	Particulars	No of Days	No of People	Rate (USD)	Total (USD)
17th October	1 Accommodation inclusive of • Breakfast (full English breakfast). • Airport transfer • 4G Wi-Fi. • Taxes.	1	3	120	360
	2 Meals and refreshments				Not applicable
	TOTAL				360

Bank details if payment is by Bank Transfer

Beneficiary Bank	Imperial Bank (U) Limited
Beneficiary Branch	Acacia Branch
Beneficiary	
Beneficiary's Account Number	(b)(4); (b)(6) [redacted]
SWIFT CODE	IMPLUGKA
Currency	USD

Thank you for choosing Airport View Hotel

Prepared by: (b)(6) [redacted]

Checked by (b)(6) [redacted]

TD 13 #6
Travel

Subject: ExecuCar Reservation Confirmation 7932040/7932041
Date: Thursday, October 1, 2015 at 10:46:10 AM Eastern Daylight Time
From: ExecuCar
To: (b)(6)

ExecuCar

Confirmation

Dear (b)(6)
Below is a summary of your confirmed service with ExecuCar. This information is for your records. No additional action is necessary.

Departure Itinerary (To the Airport)

Confirmation Number:	(b)(6)
Pickup Date/Time:	Friday, October 02, 2015 10:00 AM
Pickup:	(b)(6)
Airport:	IAD - WASHINGTON DC DULLES AIRPORT
Airline:	DELTA AIR LINES
Flight #:	DL3385 - International
Passengers:	1
Service Type:	EXECUCAR HYBRID PRIUS - (UP TO 4 PASSENGERS)
Fare:	$80.10
Tip:	$0.00
Total:	**$80.10**

Arrival itinerary (From the airport)

Confirmation Number:	(b)(6)
Pickup Date/Time:	Wednesday, October 14, 2015 4:55 PM
Airport:	IAD - WASHINGTON DC DULLES AIRPORT
Airline:	DELTA AIR LINES
Flight #:	DL3770
Drop Off:	(b)(6)

TD 13 #79
Travel

Passengers:	1
Service Type:	EXECJCAR HYBRID PRIUS - MEET AND GREET (UP TO 4 PASSENGERS)
Fare:	$89.10
Tip:	$0.00
Total:	**$89.10**

Special Instructions

FOR YOUR AIRPORT COLLECTION (MEET & GREET): YOU WILL RECEIVE A TEXT WITH YOUR DRIVER'S CELL NUMBER WHEN YOU TURN ON YOUR PHONE. YOUR DRIVER WILL BE WAITING FOR YOU IN THE BAGGAGE CLAIM AREA WHERE YOUR FLIGHT IS POSTED, HOLDING A TABLET WITH YOUR NAME ON IT AND WILL ASSIST YOU WITH YOUR LUGGAGE. IF YOU CANNOT FIND YOUR DRIVER, PLEASE CALL HIS/HER NUMBER OR OUR DISPATCH TEAM AT 1-800-410-4444

Billing

Payment Method:	PREPAID CREDIT CARD
Card type:	AMEX
Card number:	XXXX-XXXX-XXXX- 1329
Roundtrip total fare:	**$169.20**

Thank you for using ExecuCar!

We value your safety. Please wear your seatbelt during your ride with us.

To view our cancellation policy, click [here].

To make a change or cancel, call 1-(800)-410-4444.

Contact | Terms | Privacy

TD 13 #76
Travel

Printable Version

ETICKET RECEIPT IS ATTACHED
******** PLEASE REVIEW YOUR ITINERARY CAREFULLY********
DISCREPANCIES MUST BE BROUGHT TO OUR ATTENTION WITHIN 24 HOURS.
AFTER THAT TIME, ANY PENALTIES INCURRED DUE TO CHANGES ARE THE RESPONSIBILITY OF THE TRAVELER.

Kentlands Travel

UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone: (301) 948-2448

(b)(6)

Passenger(s):	(b)(6)	**Booking Ref.:**	3XOEAN
Invoice No.:	71919	**Agent:**	Marti W
Issue Date:	Friday, October 2, 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104		

- If you would like to view your reservation online with Check My Trip: Click Here
- For Aircraft Disinsection Requirements: Click Here

AIR - Friday October 16 2015

Delta Air Lines Flight DL9385 Economy Class
Operated By Klm Royal Dutch Airlines
Check In With KLM Royal Dutch Airlines (KL652)

Check In Confirmation: G8IZT

Depart:	5:45 PM, Friday, October 16 Dulles Intl Arpt. Washington, District of Columbia, USA	**Arrive:**	7:30 AM, Saturday, October 17 Schiphol Airport Amsterdam, Netherlands
Status:	Confirmed		
Booking Code:	T (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	7 hours 45 minutes	**Seat:**	26E (Non smoking) Confirmed
Meal:	Dinner		
Remarks:	Not eligible for web check in		

Weather Flight Status (up to 3 days prior)

AIR - Saturday October 17 2015

Delta Air Lines Flight DL9609 Economy Class
Operated By Klm Royal Dutch Airlines
Check In With KLM Royal Dutch Airlines (KL561)

Check In Confirmation: G8IZT

Depart:	12:55 PM, Saturday, October 17 Schiphol Airport Amsterdam, Netherlands	**Arrive:**	9:45 PM, Saturday, October 17 Entebbe Intl. Airport Entebbe, Uganda
Status:	Confirmed		
Booking Code:	T (Economy)		
Equipment:	Airbus Industrie A330-200	**Stops:**	Non-stop
Duration:	7 hours 50 minutes	**Seat:**	21E (Non smoking) Confirmed
Meal:	None		
Remarks:	Not eligible for web check in		

Weather Flight Status (up to 3 days prior)

AIR - Saturday October 24 2015

TD 13 ff 8a
Travel

Delta Air Lines Flight DL9337 Economy Class
Operated By Klm Royal Dutch Airlines
Check In With KLM Royal Dutch Airlines (KL562)

Check In Confirmation: G8IIZT

Depart:	11 30 PM, Saturday, October 24 Entebbe Intl. Airport Entebbe, Uganda	**Arrive:**	5:50 AM, Sunday, October 25 Schiphol Airport Amsterdam, Netherlands
Status:	Confirmed		
Booking Code:	T (Economy)		
Equipment:	Airbus Industrie A330-200	**Stops:**	Non-stop
Duration:	8 hours 20 minutes	**Seat:**	34B (Non smoking) Confirmed
Meal:	None		
Remarks:	Not eligible for web check in		

Weather | Flight Status (up to 3 days prior)

AIR - Sunday October 25 2015

Delta Air Lines Flight DL9384 Economy Class
Operated By Klm Royal Dutch Airlines
Check In With KLM Royal Dutch Airlines (KL651)

Check In Confirmation: G8IIZT

Depart:	1 00 PM, Sunday, October 25 Schiphol Airport Amsterdam, Netherlands	**Arrive:**	4 45 PM, Sunday, October 25 Dulles Intl Arpt. Washington, District of Columbia USA
Status:	Confirmed		
Booking Code:	T (Economy)		
Equipment:	Airbus Industrie A330-200	**Stops:**	Non-stop
Duration:	8 hours 45 minutes	**Seat:**	31D (Non smoking) On Request
Meal:	Lunch		
Remarks:	Airport ck in only for seating at this time Not eligible for web check in		

Weather | Flight Status (up to 3 days prior) | Dining Reservations

Invoice Details

Transaction / Document		Base	Tax	Total
Delta Air Lines / 006 7713233427		875 00	740 74	1616 74
	Form of Payment	AX XXXXXXXXXXXX1329		
Processing Fee / 890 0658989029		43.00		43.00
	Form of Payment	AX XXXXXXXXXXXX1329		
	Totals:	919.00	740 74	USD 1659.74

Total Charged to Credit Card: USD 1659.74
Balance Due: USD 0.00

Fare Rules

• Airline policy - Fare is not guaranteed until ticketed. This ticket is non refundable and non transferable. Changes are subject to fare Upgrade and change fee. Missing your flight without cancellation may result in the forfeiture of the value of your airline ticket.

Baggage Fees & Allowances

Baggage allowance, specific size and weight restrictions vary between airlines. Please visit the link below to view the allowances and possible fees for your trip.

- Baggage Fees/Allowances

Important Information

• Your reservation number with Delta Air Lines is G8IIZT. Delta Air Lines contact phone number is 1-800-221-1212. fare $1616.80

• Please check in at least 3 hours prior to departure. Late checkin may result in the loss of seat/reservation check in cut off time varies per

TD 13 #86

Travel

Printable Version

ETICKET RECEIPT IS ATTACHED
******* PLEASE REVIEW YOUR ITINERARY CAREFULLY*******
DISCREPANCIES MUST BE BROUGHT TO OUR ATTENTION WITHIN 24 HOURS.
AFTER THAT TIME, ANY PENALTIES INCURRED DUE TO CHANGES ARE THE RESPONSIBILITY OF THE TRAVELER.

Kentlands Travel

UNIGLOBE Kentlands Travel
60 Market Street, Suite 203
Gaithersburg, MD 20878
Phone: (301) 948-2448

Passenger(s):	(b)(6)	**Booking Ref.:**	3XNQ8N
Invoice No.:	71918	**Agent:**	Marti W
Issue Date:	Friday, October 2, 2015	**Customer:**	MBA
Billing:	METABIOTA INC ONE SUTTER SUITE 600 SAN FRANCISCO CA 94104	**Deliver:**	(b)(6)

(b)(6)

- If you would like to view your reservation online with Check My Trip: Click Here
- For Aircraft Disinsection Requirements: Click Here

AIR - Friday October 16 2015

Delta Air Lines Flight DL9385 Economy Class
Operated By Klm Royal Dutch Airlines
Check In With KLM Royal Dutch Airlines (KL652)

Check In Confirmation: G4YD7G

Depart:	5:45 PM, Friday, October 16 Dulles Intl Arpt. Washington, District of Columbia, USA	**Arrive:**	7:30 AM, Saturday, October 17 Schiphol Airport Amsterdam, Netherlands
Status:	Confirmed		
Booking Code:	T (Economy)		
Equipment:	Airbus Industrie A330-300	**Stops:**	Non-stop
Duration:	7 hours 45 minutes	**Seat:**	20E (Non smoking) Confirmed
FF Number:	AF1021849414	**Meal:**	Vegan Meal Confirmed
Remarks:	Not eligible for web check in		

Weather Flight Status (up to 3 days prior)

AIR - Saturday October 17 2015

Delta Air Lines Flight DL9409 Economy Class
Operated By Klm Royal Dutch Airlines
Check In With KLM Royal Dutch Airlines (KL561)

Check In Confirmation: G4YD7G

Depart:	12:55 PM, Saturday, October 17 Schiphol Airport Amsterdam, Netherlands	**Arrive:**	9:45 PM, Saturday, October 17 Entebbe Intl. Airport Entebbe, Uganda
Status:	Confirmed		
Booking Code:	T (Economy)		
Equipment:	Airbus Industrie A330-200	**Stops:**	Non-stop
Duration:	7 hours 50 minutes	**Seat:**	17E (Non smoking) Confirmed
FF Number:	AF1021849414	**Meal:**	None
Remarks:	Not eligible for web check in		

Weather Flight Status (up to 3 days prior)

AIR - Saturday October 24 2015

TD 13 #9a
Travel

Delta Air Lines Flight DL9337 Economy Class
Operated By Klm Royal Dutch Airlines
Check In With KLM Royal Dutch Airlines (KL562)

Check In Confirmation:
G4YD7G

Depart:	11:30 PM Saturday, October 24 Entebbe Intl. Airport Entebbe, Uganda	**Arrive:**	5:50 AM, Sunday, October 25 Schiphol Airport Amsterdam, Netherlands
Status:	Confirmed		
Booking Code:	T (Economy)		
Equipment:	Airbus Industrie A330-200	**Stops:**	Non-stop
Duration:	8 hours 20 minutes	**Seat:**	35H (Non smoking) Confirmed
FF Number:	AF1021849414	**Meal:**	None
Remarks:	Not eligible for web check in		

Weather | Flight Status (up to 3 days prior)

AIR - Sunday October 25 2015

Delta Air Lines Flight DL9384 Economy Class
Operated By Klm Royal Dutch Airlines
Check In With KLM Royal Dutch Airlines (KL651)

Check In Confirmation:
G4YD7G

Depart:	1:00 PM, Sunday, October 25 Schiphol Airport Amsterdam, Netherlands	**Arrive:**	4:45 PM, Sunday, October 25 Dulles Intl Arpt Washington, District of Columbia, USA
Status:	Confirmed		
Booking Code:	T (Economy)		
Equipment:	Airbus Industrie A330-200	**Stops:**	Non-stop
Duration:	8 hours 45 minutes	**Seat:**	Assigned at Check In
FF Number:	AF1021849414	**Meal:**	Vegan Meal **Confirmed**
Remarks:	Not eligible for web check in Airport ck in only for seating at this time		

Weather | Flight Status (up to 3 days prior) | Dining Reservations

Invoice Details

Transaction / Document		Base	Tax	Total
Delta Air Lines / 006 7713233426		875.00	740.74	1615.74
	Form of Payment: AX XXXXXXXXXXXX1329			
Processing Fee / 890 0558969028		43.00		43.00
	Form of Payment: AX XXXXXXXXXXXX1329			
	Totals:	919.00	740.74	USD 1659.74

Total Charged to Credit Card: USD 1659.74
Balance Due: USD 0.00

Fare Rules

• Airline policy - Fare is not guaranteed until ticketed. This ticket is non refundable and non transferable. Changes are subject to fare Upgrade and change fee. Missing your flight without cancellation may result in the forfeiture of the value of your airline ticket.

Baggage Fees & Allowances

Baggage allowance, specific size and weight restrictions vary between airlines. Please visit the link below to view the allowances and possible fees for your trip.

- Baggage Fees/Allowances

Important Information

• Your reservation number with Delta Air Lines is G4YD7G. Delta Air Lines contact phone number is 1-800-221-1212.

• Please check in at least 3 hours prior to departure. Late checkin may result in the loss of seat/reservation check in cut off time varies per

TD 13 #95
Travel

TDS

Contact • Valentyna Abdullina
Phone • 2023208338

Order Date • **09/24/2015**
TDS Order # **118579**

Sold To
[redacted]
San Francisco, CA 94104 US
[redacted]

Ship To
[redacted]
(b)(6)
8757 Georgia ave
Suite 600
Silver Spring, MD 20910 US
(b)(6)

Service	TDS Fee	Gov't Fee**	Item Total
(b)(6) Departure 10/16/2015	$70.00	$105.00	$175.00
Return Shipping **Client Pickup**			$0.00
		Subtotal	$175.00
		Shipping	$0.00
		Finance Fee	$6.13
		Total	$181.13
		Total Received	$181.13
		Balance Due	$0.00

TD 13 # 10
Travel

Order Receipt

Contac [redacted] (b)(6)

Order Date • 09/24/2015
TDS Order # 118574

Sold To:
Metabalota
925 California street
suite 200
San Francisco, CA 904164 US
2023208338

Ship To:
Metabalota Inc
[redacted] (b)(6)
8757 Georgia ave
Suite 800
Silver Spring, MD 20910 US
[redacted] (b)(6)

Inbound Shipping: **I will deliver to the office**

Service	TDS Fee	Gov't Fee**	Item Total
[redacted] (b)(6) Departure 10/16/2015			
Uganda: Multiple Entry Visa 6 months, Business, 4-5 Business Days	$70.00	$105.00	$175.00
Return Shipping **Client Pickup**			$0.00
		Subtotal	$175.00
		Shipping	$0.00
		Finance Fee	$6.13
		Total	$181.13
		Total Received	$181.13
		Balance Due	$0.00

TD 13 # 11

Subject: ExecuCar Reservation Confirmation 7998322/7998323
Date: Monday, October 5, 2015 at 4:10:19 PM Eastern Daylight Time
From: ExecuCar
To: (b)(6)

ExecuCar

Confirmation

Dear (b)(6)
Below is a summary of your confirmed service with ExecuCar. This information is for your records. No additional action is necessary.

Departure Itinerary (To the Airport)

Confirmation Number:	(b)(6)
Pickup Date/Time:	Friday, October 16, 2015 1:00 PM
Pickup:	(b)(6)
Airport:	IAD - WASHINGTON DC DULLES AIRPORT
Airline:	DELTA AIR LINES
Flight #:	DL9385 - International
Passengers:	1
Service Type:	EXECUCAR HYBRID PRIUS - (UP TO 4 PASSENGERS)
Fare:	$89.10
Tip:	$0.00
Total:	**$89.10**

Arrival Itinerary (From the airport)

Confirmation Number:	(b)(6)
Pickup Date/Time:	Sunday, October 25, 2015 4:45 PM
Airport:	IAD - WASHINGTON DC DULLES AIRPORT
Airline:	DELTA AIR LINES
Flight #:	DL9384
Drop Off:	(b)(6)

TD 13 #129
Travel

Passengers:	1
Service Type:	EXECUCAR HYBRID PRIUS - MEET AND GREET (UP TO 4 PASSENGERS)
Fare:	$98.10
Tip:	$0.00
Total:	**$98.10**

Special Instructions

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Billing

Payment Method:	PREPAID CREDIT CARD
Card type:	AMEX
Card number:	XXXX-XXXX-XXXX- 1329
Roundtrip total fare:	**$187.20**

Thank you for using ExecuCar!

We value your safety. Please wear your seatbelt during your ride with us.

To view our cancellation policy, click [here].

To make a change or cancel, call 1 (800) 410-4444.

Contact | Terms | Privacy

TD 13 #12b
Travel

LivingWaters

INVOICE

(b)(6)

Invoice Date
23 Sep 2015

Invoice Number
INV 1101

TIN
1000119491

Living Water Resort
King Solomon Investments
P O Box 7675
KAMPALA
UGANDA
Tel: +256793 845 255
info@sourceofthenile.org
www.sourceofthenile.org

Description	Quantity	Unit Price	Amount USD
Luxury Tent Single Occupancy ($130 pp/night) Bed & Breakfast	6.00	130.00	780.00
Luxury Tent Single Occupancy ($130 pp/night) Bed & Breakfast	6.00	130.00	780 00
Luxury Tent - Single Occupancy ($130 pp/night) Bed & Breakfast	6.00	130.00	780.00
Luxury Tent - Single Occupancy ($130 pp/night) Bed & Breakfast	6.00	130.00	780 00
		INCLUDES LST 3%*	77 36
		INCLUDES VAT 18%*	464 12
		TOTAL USD	**3,120.00**

Due Date: 23 Sep 2015
TELEGRAPHIC TRANSFERS

BANK: STANDARD CHARTERED BANK
BANK ADDRESS: STANDARD HOUSE BUILDING 5 SPEKE ROAD, KAMPALA
SWIFT CODE: SCBLUGKAXXX
ACCOUNT NAME: KING SOLOMON INVESTMENTS (U) LTD.
ACCOUNT NUMBER (b)(6)
CURRENCY: US DOLL...

*** Total Tax equivalent to UGX 1,975,339.28**
Conversion rate: 1 UGX = 0.000274120 USD

TD 13#13
Travel

TD 014 Grant Writing Mentorship and Workshop – Kenya-

Objectives

The objective is to conduct a 6-day workshop and provide continuing mentorship on the skills required to successfully write scientific publications to a cohort of 20 scientists to be selected from the attendees of the Regional Conference on Zoonotic Diseases in Eastern Africa held in Kenya in March 2015.

Period of Performance: 07 02 15-05 15 16

CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$85,141.00	$11,383.90	$73,757.11
1003	$7,880.00		$7,880.00
1004	$3,542.00		$3,542.00
1005	$17,420.00		$17,420.00
TOTAL	$113,983.00	$11,383.90	$102,599.11

CLIN 1002 – Labor

Program Manager: 56 Hours

(b)(6) worked together to prepare the proposal in response to the technical direction including holding several meetings with stakeholders to fully understand the requirements. Upon approval (b)(6) established bi-weekly stakeholder calls to ensure deliverables were met and the program remains successful. (b)(6) has since held bi-weekly calls with Kenyan stakeholders (b)(6) (b)(6) as well as DTRA CBEP representation. He has also led the development of and dissemination of the project charter for TD-014.

Subject matter 1: 28.5 Hours

(b)(6) assisted in the proposal development and participated in the bi-weekly calls with stakeholders. She assisted (b)(6) in the development of a project charter to assist with tracking of labor and deliverable completion. (b)(6) additionally began outreach efforts in support of identifying subject matter experts to support this effort in later phases.

CLIN 1003 – Materials and Supplies

No Costs Incurred

CLIN 1004 – ODCs

No Costs Incurred

CLIN 1005 – Travel

No Costs Incurred

Metabiota

TD-014 Kenya Grants

CLIN 1002 LABOR

NAME	LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED
(b)(4); (b)(6)	Program Manager	(b)(4); (b)(6)	35.00	(b)(4); (b)(6)	35.00	(b)(4); (b)(6)
	Program Manager		13.00		13.00	
	Program Manager		8.00		8.00	
	Subject Matter Expert 1		21.00		21.00	
	Subject Matter Expert 1		7.50		7.50	
			84.50		84.50	

#	DTRA Comment	Metabiota Response	Location
[redacted]	[redacted]	[redacted]	[redacted]
1			**TD-014 Kenya Writing Workshop budget 2015-08-16 'Labor breakout'CTR-CBEP_AEP_TD-14RevA_KE_Writing Workshop_14Sep2015, Section 9.**
2	For Phase 2 -Participant Identification and SME Matching: Metabiota proposed a PM (94 hours or approximately 13.4 hours/week for 7 weeks), a SME1 (105 hours or 15 hours/week for 7 weeks) and a SME3 (101 hours or approximately 14.4 hours/week for 7 weeks). The conference organizers have already selected the 20 participants; therefore Metabiota should remove this phase from the proposal. Additional communications regarding the SME assignments should occur during Phase 1 and should be part of the not to exceed 6 hours/week. The hours allocated to this phase should be removed from the proposal. Total hours to be removed: 300 hours.	Metabiota acknowleges that participant identification has already occurred and that SME matching will now be a component of phase 1. Phase 2 has been eliminated and the budget has been updated accordingly.	TD-014 Kenya Writing Workshop budget 2015-08-16 'Labor breakout'CTR-CBEP_AEP_TD-14RevA_KE_Writing Workshop_14Sep2015, Section 9.

3	For Phase 3 -Hypothesis Development and Article Framing: Metabiota proposes a PM (109 hours or 8.4 hours/week for 13 weeks; 1 SME1 (218 hours or approx. 17 hours/week for 13 weeks), 2 SME2s (103 hours each or approx. 8 hours/week), 3 SME3s (103 hours each or approx. 8 hours/week for 13 weeks), and 5 RDAs (140 hours each or approx. 11 hours/week for 13 weeks). CBEP expectation is to provide the participants with the right skills to take their manuscripts to the next level, with the goal that that next level will be good enough for acceptance to a peer-reviewed journal. It is for that reason that these efforts were not requested in the letter of technical direction. The SMEs will not need to contact the participants before the workshop due to the coordination through the Kenyan POCs and SMEs. Metabiota's SMEs (one from Metabiota and two Kenyans to be identified) will review the participants' manuscripts prior to the workshop. Each SME should not spend more than 20 hours total to complete the review and assessment of the manuscripts prior to the workshop as well as conduct any additional coordination among the SMEs. The SMEs will work together to determine if/how the manuscripts will be divided up as each SME may not need to conduct a detailed review of each manuscript. There may be additional SMEs identified for participation in all workshop activities (including pre- and post- workshop activities) by the Kenyan stakeholders but their time will not be funded by Metabiota. PM oversight of the SME's review	Metabiota acknowleges that SMEs will not be tasked with communication with participants prior to the workshop. Their roles have been specified for participant manuscript review during this phase and they been alloted 20 hours each. The PM will coordinate this effort with the mentioned allotment of 5 hours. All other roles have been eliminated and the phase title has been changed in kind.	TD-014 Kenya Writing Workshop budget 2015-08-16 'Labor breakout';CTR-CBEP_AEP_TD-14RevA_KE_Writing Workshop_14Sep2015, Section 9.
4	For Phase 4-Writing Workshop Implementation: Metabiota proposed a PM (72 hours), 1 SME1 (72 hours), 2 SME2s (72 hours each), and 3 SME3's (72 hours each). The TD specified Metabiota to develop a six day workshop but the dates proposed go beyond six days (Feb 1-14, 2016). The dates should be revised to reflect the following workshop outline: 1) the main workshop will consist of 5 days (Monday-Friday) where the SME's will work together with the participants, 2) 1 day after the workshop for the SME's to finalize the review of the manuscripts, and 3) the travel days needed to travel between the U.S. in Kenya. PM participation during the workshop is acceptable; however it is not clear what the PM will do full time during the workshop. Oversight should not necessitate as many hours as the SMEs efforts during the workshop, therefore Metabiota should reduce the number of PM hours to reflect those hours spend only on this project, or provide additional clarification regarding PM tasks during the 6 working days to justify a full-time workload. The labor hours for each SME should not exceed 72 hours.	Metabiota acknowleges that the project will not last more than 6 days and that the window will be adjusted to reeflect this. PM hours have been reduced to 4 hours per day during the workshop to ensure that the referenced time is soleley focused on the project. New total PM hours: 54 (inclusive of international travel needs). SME I has been left at 72 (inclusive of internationl travel needs) to allow for full engagement and support in country. SME IIIs (Kenya Based) have been reduced to 52 hours (inclusive of domestic travel needs) to allow for full engagement and support in country during the workshop.	TD-014 Kenya Writing Workshop budget 2015-08-16 'Labor breakout'; CTR-CBEP_AEP_TD-14RevA_KE_Writing Workshop_14Sep2015, Section 9.
5	For Phase 5- Paper Finalization and Publication Submission: Metabiota proposed a PM (49 hours or 5.4 hours/week for 9 weeks), 1 SME1 (97 hours or 11 hours/week for 9 weeks), 2 SME2's (72 hours each or 8 hours/week for 9 weeks), 3 SME3's (72 hours each or 8 hours/week for 9 weeks) and 5 RDA's (136 hours each). As stated in the TD, CBEP will not be supporting or overseeing the submission of these manuscripts; for that reason, this phase should be removed from the proposal. Post-workshop activities will be captured below in proposed Phase 6.	Metabiota acknowleges that no oversight of submission will be provided, and phase 5 has been eliminated. Relevant post work shop activities have been migrated to the next phase.	TD-014 Kenya Writing Workshop budget 2015-08-16 'Labor breakout';CTR-CBEP_AEP_TD-14RevA_KE_Writing Workshop_14Sep2015, Section 9.

6	For Phase 6 -Post-submission Assistance and Summary Report Development: Metabiota proposed a PM (10 hours), a SME1/Project Coordinator (10 hours), 2 SME2's (20 hours each), and 3 SME3's (20 hours each). As stated in the TD, CBEP will not be overseeing the submission or the post-submission process for the participants thus this phase is not necessary and should be removed from the proposal. Post-workshop efforts will include the three SMEs spending no more than 20 hours each over 2-4 weeks to continue coordination with each other and potentially other SMEs (not funded via Metabiota) as well finalize any needed review or revision of the manuscripts with the workshop participants. Again, this may need to be divided between SMEs to stay within the 20 hour maximum. PM oversight of the SME's final review and coordination activities should not exceed 5 hours total	Metabiota acknowleges that it will not provide oversight to the submission or post submission process - and that it will only provide final review and revision of workshop participants manuscripts's. This effort will be performed only by Metabiota SME I and Kenyan National SME III's with oversight from the Metabiota PM.	TD-014 Kenya Writing Workshop budget 2015-08-16 'Labor breakout';CTR-CBEP_AEP_TD-14RevA_KE_Writing Workshop_14Sep2015, Section 9.
7	For Materials and Supplies: Metabiota proposed the access of scientific articles from online journals. Metabiota proposed that each of the 20 participants will need access to 20 articles at a cost (b)(4) per article for a total cost of (b)(4); CBEP agrees that the access to journals will be necessary but the maximum number of articles per participant proposed is excessive. CBEP expects participants to have relevant papers they have used in the past (to develop draft manuscripts papers and the presentations given at the One Health Conference). Therefore, it seems more appropriate to lower the access per participant to no more than 10 articles per person. This is an average and downloads should be managed by the SMEs. A total number of 200 papers is authorized however this is the maximum, which does not need to be met, and should be used as needed per participant, not necessarily divided evenly if some participants do not require additional resources. This section should be revised to reflect this vision.	Materials and supply costs for jounrals have been reduced to (b)(4); This will allow for an average of 10 articles per person for all 20 participants. Access to articles will only be purchased on a justifiable and as needed basis.	TD-014 Kenya Writing Workshop budget 2015-08-16 'materials'; CTR-CBEP_AEP_TD-14RevA_KE_Writing Workshop_14Sep2015, Section 9.
8	For Travel: Metabiota proposes (b)(4); (b)(6) e fee per traveler; it is unclear what this expense covers, and CBEP generally does not consider "service fee" an allowable expense. More information is needed to justify this fee.	Recognizing that CBEP does not consider "service fee" an allowable expense, th(b)(4); (b)(6) e has been removed.	TD-014 Kenya Writing Workshop budget 2015-08-16 'travel';CTR-CBEP_AEP_TD-14RevA_KE_Writing Workshop_14Sep2015, Section 9.

TD-014 Kenya Writing Workshop budget 2015-08-16 'materials';CTR-CBEP_AEP_TD-14RevA_KE_Writing Workshop_14Sep2015, Section 9.

9

For Communication: Metabiota proposes costs for international calling and data plans for each traveler at a cost (b)(4); (b)(6) for a total cost of (b)(4); (b)(6) More information is needed regarding the type of data plan to be purchased and the options that are available (e.g. quotes) for different plans available for a single 1-week trip to determine if these expenses are reasonable and appropriate. More justification is needed regarding the need for every single person to have a full plan (calling and data plan) including the proposed use (CBEP will only support the use of the mobile phones for activities directly related to the workshop, not other business).

1). Reliable and well respected Kenyan cellcom provider Safricom offers prepaid data plans a(b)(4); (b)(6)
(b)(4); (b)(6)

It is expected that SMEs and potentially the PM, in a supporting role) will need to acces journal articles to support the research of workshop participants. Each individual will also require a USB modem internet device, aslo available through Safaricom and costin(b)(4); (b)(6)
(b)(4); (b)(6)
(b)(4);). We additionally propose that there is a need to provide all SMEs, and the PM(b)(4);
(b)(4); (b)(6)
(b)(4); (b)(6) worth of general purpose cellular communication credit per day to ensure saftely and cohesion among the visiting team.

From: (b)(6)
To:
Cc:

Subject: RE: TD 015 - Vietnam Health Informatics Support Services Budget and Budget Narrative
Date: Wednesday, August 19, 2015 11:29:54 AM

Hi (b)(6)

Metabiota's proposal submitted on 11 Aug 2015 in support of Technical Directive 015 is hereby approved for implementation with a ceiling price of (b)(6)

The Contractor should use its best efforts to perform the work specified in the Technical directive within the estimated ceiling price. The Contractor should notify the Contracting Officer in writing whenever it has reason to believe that the costs for this Technical Directive are expected to go over the established ceiling price.

Cheers,
(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Tuesday, August 11, 2015 1:12 PM
To: (b)(6)
Cc:
Subject: TD 015 - Vietnam Health Informatics Support Services Budget and Budget Narrative

Dear (b)(6)

As requested, please find attached Metabiota's budget and budget narrative in response to TD 015 Vietnam Health Informatics Support Services. The final report and attachments will be sent immediately following this email via AMRDEC, as it is too large to email. The report has simultaneously been sent to CDC personnel by (b)(6)

If you have any questions, please contact me at anytime.

V/r, (b)(6)

(b)(6)
Southeast Asia Program Manager – AEP
Metabiota Inc.
(b)(6)

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify

the sender of the error by email reply.

TD 015 Health Informatics Support Services - Vietnam

Objectives

Improve Vietnam Ministry of Health systems (processes and software) to support public health disease reporting and response capacity and improve compliance with National and International Health Regulations (e.g., IHR 2005).

Period of Performance: 05/16/2015 – 06/30/2015

CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$51,805.00	$51,804.80	$0.20
1003	$0.00	$0.00	$0.00
1004	$0.00	$0.00	$0.00
1005	$0.00	$0.00	$0.00
TOTAL	$51,805.00	$51,804.80	$0.20

The period of performance for this activity extended 1.5 months into Option Year 1 of the AEP contract to accommodate close out activities conducted by Dr. Shields in Vietnam and completion of the final report to the optimal extent.

CLIN 1002 – Labor

Costs for direct labor to support this activity were incurred for the following personnel:

Program Manager: 8 Hours

Metabiota SEA Program Manager (b)(6) to allow for continued program management activities and oversight for the duration of the period of performance. Tasks included: coordination with (b)(6) in closing out all activities for the project, to include contract invoicing and close out, receipt and review of the final report and submission of the report to CBEP and CDC personnel.

Visiting Scientist: 176 Hours

Visiting Scientist (b)(6) to allow for continued contact and key meetings with in- country partners, supporting completion of the evaluation report in a timely manner in order to identify gaps in the capability and capacity of the existing disease reporting and response systems, as well as supporting information systems software and other tools to meet the Vietnam National and International Health Regulation's (IHR 2005) reporting requirements in the scope of GHS Agenda. In addition, labor hours in this period included close out and demobilization activities in Vietnam, as well as completion and submission of the final report and attachments.

CLIN 1003 – Materials and Supplies

No costs were incurred during this period.

CLIN 1004 – ODCs

No additional costs were incurred. Costs for DBA insurance were previously incurred for (b)(6) time in Vietnam.

CLIN 1005 – Travel
No costs were incurred during this period.

Metabiota

Invoice: INV-0000000239
Invoice Amount 51,804.80
Remit To:
Metabiota,Inc.
1 Sutter Street, Suite 600
San Francisco
CA
94104

Invoice End Date 7/31/15
Invoice Due Date 2015-10-08
Bill To:
Defense Threat Reduction Agency
8725 John J. Kingman Rd.
Ft. Belvoir
VA
22060-6201

TD-015 Health Informatic Support Services Vietnam

ansaction Project	PLC Cd	PLC Desc	Name	Bill Hour	Billing Rat	mount To Bi	umulative Hou	Cumulative Amount
01021.01.102.SE	PM1002	Program Manager	(b)(4); (b)(6)	8.00	(b)(4); (b)(6)	(b)(4); (b)(6)	8.00	(b)(4); (b)(6)
01021.01.102.SE	VS1001	Visiting Scientist		96.00			96.00	
01021.01.102.SE	VS1001	Visiting Scientist		80.00			80.00	
		TOTAL CLIN 1002		**184.00**			**184.00**	
		TOTAL INVOICE						

From: (b)(6)
To:
Cc:

Subject: TD-015 Vietnam Health Informatics SME Report
Date: Wednesday, August 05, 2015 1:59:35 PM
Attachments: AEP_TD-015_Vietnam_SME Report_04Aug15.pdf

Hi (b)(6)

Please find attached TD-015 for the report completed by (b)(6) as a Health Informatics SME to Vietnam. Please feel free to communicate directly with CBEP POCs for this TD (b)(6) (b)(6) if you have any questions.

Cheers,

(b)(6)
Deputy Chief Scientist
Cooperative Biological Engagement Program
Cooperative Threat Reduction
Defense Threat Reduction Agency
Email (b)(6)
Phone
Mobil

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

August 5, 2015

Metabiota
(b)(6)
Director
1 Sutter STE 600
San Francisco, CA 94104-4923

Subject: HDTRA1-14-C-0104 Technical Direction for Continued Health Informatics support in Vietnam.

Dear (b)(6)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to complete deployment activities of a health informatics subject matter expert (SME) in Hanoi, Vietnam through May 2015, in accordance with SOW section 4.3, Task 2. Metabiota was previously issued a Technical Direction Memo to proceed with the fulfillment of a Global Health Security Information Systems and Surveillance contract position to be stationed in Vietnam; authorizing disclosure of position requirements and soliciting candidates for the position. In support of this effort, the SME assessed, designed and implemented activities to assist the Vietnam Ministry of Health, including the General Department of Preventive Medicine, four regional institutes, provincial and district laboratories and others involved in disease surveillance, report and response.

The deliverable of a final report prepared by the SME will be provided to the CBEP POCs identified below upon completion of contract.

Nothing in this letter shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with the DTRA CBEP Points of Contact listed below.

CBEP POCs: CBEP Vietnam Country Manager (b)(6)
(b)(6) , CBEP PACOM Science Manager, (b)(6)
(b)(6)

Attachments List: None

Sincerely,

Defense Threat Reduction Agency
8725 John J. Kingman Drive MSC 6201
Fort Belvoir, VA 22060-6201

8/5/2015

(b)(6)

(b)(6)

COR/J3CTB Deputy Chief Scientist

Signed by (b)(6)

Cc: (b)(6)

TD 016 Georgia GIS

Objectives

Provide GIS subject matter expertise to project teams responsible for DTRA CBEP research projects GG-19, GG-20, and GG-27. Subject matter expertise will be responsible for providing mentoring to Georgian scientists both via remote communication and in person.

Period of Performance: 09/15/15 – 05/15/16

CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$123,494.00	$8,488.52	$115,005.49
1003	$0.00		$0.00
1004	$1,754.00		$1,754.00
1005	$14,257.00		$14,257.00
TOTAL	$139,505.00	$8,488.52	$131,016.49

CLIN 1002 – Labor

Program Manager: 57 Hours

(b)(6) prepared and submitted a proposal in response to the technical direction. He identified the most qualified performer to be (b)(6) with the University of Florida and began negotiations to establish a subcontract agreement. He also had discussions with the project teams and reviewed the Forms A for the three CBR projects after they were provided by DTRA A&AS. After incorporating this new knowledge, Dennis submitted a revised proposal to the government to include research and data analyst hours and the proposal was approved.

Subject matter 1: 4.5 Hours

(b)(6) assisted in development of the proposal and in the drafting of the subcontract documents.

CLIN 1003 – Materials and Supplies

No costs invoiced.

CLIN 1004 – ODCs

No costs invoiced.

CLIN 1005 – Travel

No costs invoiced.

Metabiota

Invoice:
Invoice Amount
Remit To:
Metabiota,Inc.
1 Sutter Street, Suite 600
San Francisco
CA
94104

(b)(6)

Invoice End Date
Invoice Due Date
Bill To:
Defense Threat Reduction Age
8725 John J. Kingman Rd.
(b)(6)
VA
22060-6201

TO-016 Georgia GIS

CLIN 1002 LABOR

NAME	LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED
(b)(4); (b)(6)	Program Manager	$	57.00	(b)(4); (b)(6)	57.00	$ (b)(4); (b)(6)
	Subject Matter Expert 1	$	4.50		4.50	$
			61.50		**61.50**	**$**

From: (b)(6)
To:
Cc:

Subject: TD-016: Georgia GIS SME Support
Date: Tuesday, September 01, 2015 2:20:39 PM
Attachments: CTR-CBEP_AEP_TD-016_Georgia_GIS SME_01Sep2105.docx

H(b)(6)

Please find attached technical direction TD-016 for GIS SME support in Georgia. We are using a new format to capture all of the components of TDs. Your response, in this new format, is requested by COB 4 Sep 2015. If you feel you cannot submit a completed response in this time frame based on the information provided in the TD or if you have questions about how to use the form, please arrange a call with myself and the Contracting Officer within 24 hours of receipt of this email.

Nothing in this email shall constitute a contractual direction or affect the current negotiated cost, price or schedule contained in the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and immediately contact the contracting officer for direction.

Metabiota shall proceed with all coordination necessary to implement this task and communicate as needed with the DTRA CBEP Points of Contact listed in Block 15 of the Technical Direction, with copy to the individuals specified below and on the Cc line.

Cc: (b)(6)

Deputy Chief Scientist
Cooperative Biological Engagement Program
Cooperative Threat Reduction
Defense Threat Reduction Agency
Email: (b)(6)
Phone:
Mobile

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a. TD NUMBER	3b. REV
HDTRA1-14-c-0104	METABIOTA	16	

4. TD TITLE	5. TOTAL TD ESTIMATE
Subject Matter Expertise in Geographic Information Systems (GIS) Modeling and Regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia	HOURS: 520 DOLLARS: $ $150,000.00

6. CONTRACTING OFFICER REPPESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE: (b)(6)	PHONE: EMAIL: (b)(6)

Commented [BCSC1]: Exemption 6 USG personnel name and contact info

8. DESCRIPTION (NOT TO EXCEED 1 PAGE)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide expertise in geographic information systems (GIS) modeling and regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia in accordance with SOW, Section 4.4, Task 2 and Task 4. This expertise should be provided by a scientist (SME I or SME II) with experience of working with Former Soviet Union (FSU) researchers and should focus on providing subject matter expertise in GIS modeling and regional SNPs for CBEP-funded research projects GG-19, GG-20 and GG-27.

For GG-19, this expertise should include guidance and mentorship of National Center for Disease Control (NCDC) staff on using GIS to determine a risk assessment for exposure to environmental and animal sources of *Francisella tularensis*, and should focus on producing risk assessment maps.

For GG-20, the expert should provide mentorship to Laboratory of Ministry of Agriculture (LMA) and National Food Agency (NFA) personnel on using GIS techniques to manage and visualize (map) the ecological niche and distribution models of *Coxiella burnetii* and conduct advanced spatial and temporal modeling and statistical analysis of datasets.

For GG-27, the expert should aid in the identification and selection of regional foci of *Bacillus anthracis* and the corresponding environmental sampling sites, conduct spatial genetic pattern analysis and risk factor mapping of *B. anthracis* using GIS, aid in the production of GIS models of the geographic distribution of *B. anthracis* across the south Caucasus, and serve as a subject matter expert on regional Single Nucleotide Polymorphisms (SNPs), including a well-established Georgian SNP typing panel. Mentorship activities should focus on providing guidance in stringent metrics and international standards in GIS and SNP data interpretation and analysis to NCDC, LMA and NFA scientists.

It is expected that implementation of this requirement will be approximately 13 weeks worth of effort consisting of (a) 3 x 1 week trips (detailed below), (b) up to 1 week before each trip for preparation activities, (c) up to 1 week after each trip for reporting and follow-up actions, and (d) up to 4 additional weeks of effort for coordination and remote reach-back support. The expert is expected to conduct two trips to Tbilisi, Georgia, to provide on-site mentorship to Georgian colleagues for GG-19, GG-20 and GG-27 research projects. Timing for these trips should be determined based on project needs. The expert is also expected to conduct a third trip to attend the regional GG-27/AJ TAP-11 kick-off meeting in Baku, Azerbaijan in October 2015.

The period of performance for this effort will be from 15 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $150,000 is requested by 4 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES)

10. FUNDING AUTHORIZED THIS TO REV

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL)

11a. FUNDS AUTHORIZED FOR THIS TD REV

$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV.

$ $0

12a. CURRENT PERIOD OF PERFORMANCE

15 Sep 2015 – 15 May 2016

12b. TD REV PERIOD OF PERFORMANCE

15 Sep 2015 – 15 May 2016

13. CONTRACTOR SIGNATURE AND DATE

Signature: _____

Date: _____

14. REGION

EUCOM

15. TECHNICAL POINTS OF CONTACT

Georgia Country Manager (b)(6)

(b)(6)

Georgia Country Manager (b)(6)

(b)(6)

EUCOM Regional Science Manager (b)(6)

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

(b)(6)

COR / JSCTB Deputy Chief Scientist

Commented [BCSC2]: Exemption 6
USG personnel names and contact info

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-c-0104	METABIOTA	16	

4. TD TITLE

Subject Matter Expertise in Geographic Information Systems (GIS) Modeling and Regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia

5. TOTAL TD ESTIMATE:
HOURS: (b)(6)
DOLLARS: $ **$150,000.00**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE: (b)(6) MAIL:

7. CONTRACTOR POC
NAME: (b)(6)
PHONE: (b)(6) EMAIL:

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide expertise in geographic information systems (GIS) modeling and regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia in accordance with SOW, Section 4.4, Task 2 and Task 4. This expertise should be provided by a scientist (SME I or SME II) with experience of working with Former Soviet Union (FSU) researchers and should focus on providing subject matter expertise in GIS modeling and regional SNPs for CBEP-funded research projects GG-19, GG-20 and GG-27

For GG-19, this expertise should include guidance and mentorship of National Center for Disease Control (NCDC) staff on using GIS to determine a risk assessment for exposure to environmental and animal sources of *Francisella tularensis*, and should focus on producing risk assessment maps.

For GG-20, the expert should provide mentorship to Laboratory of Ministry of Agriculture (LMA) and National Food Agency (NFA) personnel on using GIS techniques to manage and visualize (map) the ecological niche and distribution models of *Coxiella burnetii* and conduct advanced spatial and temporal modeling and statistical analysis of datasets.

For GG-27, the expert should aid in the identification and selection of regional foci of *Bacillus anthracis* and the corresponding environmental sampling sites, conduct spatial genetic pattern analysis and risk factor mapping of *B. anthracis* using GIS, aid in the production of GIS models of the geographic distribution of *B. anthracis* across the south Caucasus, and serve as a subject matter expert on regional Single Nucleotide Polymorphisms (SNPs), including a well-established Georgian SNP typing panel. Mentorship activities should focus on providing guidance in stringent metrics and international standards in GIS and SNP data interpretation and analysis to NCDC, LMA and NFA scientists.

It is expected that implementation of this requirement will be approximately 13 weeks worth of effort consisting of (a) 3 x 1 week trips (detailed below), (b) up to 1 week before each trip for preparation activities, (c) up to 1 week after each trip for reporting and follow-up actions, and (d) up to 4 additional weeks of effort for coordination and remote reach-back support. The expert is expected to conduct two trips to Tbilisi, Georgia, to provide on-site mentorship to Georgian colleagues for GG-19, GG-20 and GG-27 research projects. Timing for these trips should be determined based on project needs. The expert is also expected to conduct a third trip to attend the regional GG-27/AJ TAP-11 kick-off meeting in Baku, Azerbaijan in October 2015.

The period of performance for this effort will be from 15 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $150,000 is requested by 4 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

Proposal Development & Initiation
Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8 and leverages information gleaned from discussions with A&AS contractors. A key assumption for this effort is that the Georgian scientists are generally capable of conducting GIS analyses on their own. It is anticipated that the plan for TD-016 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as SME I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:
From the information provided in Box 8, Metabiota assumes that these projects are ongoing affairs led by a third party. In order to effectively ensure that a GIS SME is available to provide the requested in-country mentoring, the Metabiota PM and PC will, upon approval of the TD, continue to engage relevant DTRA CBEP stakeholders to identify how, where, and when project status updates are communicated (for example, monthly teleconference, weekly email exchanges, etc.). Upon approval and receipt of additional information re: GG 19, 20, and 27, the Metabiota PM and PC will identify a GIS SME and work to establish a subcontract or independent consulting arrangement with the SME. The Metabiota PM, PC, and GIS SME will participate in these communications in order to understand when in-country mentoring activities will be required. The Metabiota PM and PC will work with the GIS SME to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or the appropriate DTRO (Tbilisi or Baku).

Mentoring:
Mentoring will consist of both in-country and remote mentoring. After assessing the need for in-person GIS mentoring, the PM, PC, and GIS SME will work with the project teams to elucidate the specific goals, and requirements of each mentoring request to ensure that the mentoring visit is conducted efficiently and effectively. The GIS SME will work with the PM, PC, and appropriate stakeholders in each respective project to create a list of tasks to be accomplished by the Georgian scientists leading up to the mentoring visit, to create a list of topics for the GIS SME to be prepared to assist with during the mentoring visit, and to facilitate the communication and exchange of any necessary data or concepts both prior to and following each mentoring visit.

Reach-back support:
Based on our understanding of the requirements, Metabiota does not expect to be required to provide primary GIS analysis support to any of the three projects, but does expect the GIS SME to be available to occasional y provide remote guidance or limited assistance with data analyses. Through regular communications with the respective project teams, Metabiota will be made aware of any additional subject matter expertise requests. The GIS SME will address these needs as they arise.

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Cost, Schedule, Performance, Quality						
Unable to communicate with DTRA CBEP technical POCs	The short turnaround combined with the holiday likely led to the non-response to Metabiota requests for communication and background materials on the three Georgia projects. Therefore, the proposal was developed without sufficient context into the true level of GIS subject matter expertise needed to accomplish project goals. Thus our proposed labor solution may be inadequate, impacting cost. It may also impact schedule, performance, and quality, as we may proceed to identify a SME who is incapable of meeting project requirements in a timely fashion or to the satisfaction of project stakeholders.	5	4	(b)(4); (b)(6)	Upon approval, continue efforts to contact DTRA Technical POCs and all other relevant stakeholders (for example, A&AS). During proposal development Metabiota has researched multiple possible SMEs who could potentially address project requirements.	**Med-High**
Schedule / Performance						
The TD indicates potential travel in October	TD was received on 1 September, and indicates travel for an unspecified window in October, placing Metabiota at risk for not meeting CDRL deadlines. Missing the CCR CDRL deadline may result in travel authorization being denied.	5	5	(b)(4); (b)(6)	Ask DTRA if Metabiota may proceed with project coordination activities sans approval; also ask for possibility of receiving formal exemption of meeting CCR deadlines for this first travel.	**Med-High**

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$123,504
1003	MATERIALS	$0
1004	ODCs	$1,754
1005	TRAVEL	$14,257
TOTAL		**$139,514.62**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES)

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Expert may be an independent consultants or subcontractor, the Metabiota PM will additionally provide management oversight of the project subcontractors (GIS SME) and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the

acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM and will manage the GIS SME, including all subcontractors, to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline.

The PC will lead coordination with project stakeholders and will coordinate in-country mentorship dates. The PC will participate in regular communications between the project stakeholders and the GIS SME. The PC will coordinate with stakeholders in order to plan and execute logistical arrangements, and drive the coordination required to sufficiently gather the answers to the logistical questions that will arise in the planning and execution of requested travel for mentoring activities.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the GIS SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Subject Matter Expert 2: The SME 2 will serve as the GIS SME. The SME 2 will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project, the needs and expectations of the Georgian scientists, and the GIS subject matter expertise needed. The SME 2 will provide both in-country and remote mentoring as directed by the respective project leads.

Materials
No materials are expected to be procured for this effort.

Other Direct Costs
Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts
Subcontracts will be issued to SMEs, RDAs, and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support the GIS SME to Tbilisi, Georgia for two (2) one-week trips to provide mentoring as needed. Travel is also requested to support the GIS SME to Baku, Azerbaijan for one (1) one-week trip to attend the project kickoff of GG-27/AJ TAP-11. The travel budget represents the estimated amount required; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ $0

12a. CURRENT PERIOD OF PERFORMANCE
15 Sep 2015 –15 May 2016

12b. TD REV PERIOD OF PERFORMANCE
15 Sep 2015 – 15 May 2016

13. CONTRACTOR SIGNATURE AND DATE
(b)(6)
Signature
Date: 9 September 2015

14. REGION
EUCOM

15. TECHNICAL POINTS OF CONTACT
(b)(6)
Georgia Country Manager
(b)(6)
Georgia Country Manager
(b)(6)
EUCOM Regional Science Manager
(b)(6)
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X
(b)(6)
COR / JSCTD Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-c-0104	METABIOTA	16	

4. TD TITLE	5. TOTAL TD ESTIMATE:
Subject Matter Expertise in Geographic Information Systems (GIS) Modeling and Regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia	HOURS: (b)(6) DOLLARS: $ **$150,000.00**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME (b)(6)
PHONE (b)(6) AIL	PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide expertise in geographic information systems (GIS) modeling and regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia in accordance with SOW. Section 4.4, Task 2 and Task 4. This expertise should be provided by a scientist (SME I or SME II) with experience of working with Former Soviet Union (FSU) researchers and should focus on providing subject matter expertise in GIS modeling and regional SNPs for CBEP-funded research projects GG-19, GG-20 and GG-27.

For GG-19, this expertise should include guidance and mentorship of National Center for Disease Control (NCDC) staff on using GIS to determine a risk assessment for exposure to environmental and animal sources of *Francisella tularensis*, and should focus on producing risk assessment maps.

For GG-20, the expert should provide mentorship to Laboratory of Ministry of Agriculture (LMA) and National Food Agency (NFA) personnel on using GIS techniques to manage and visualize (map) the ecological niche and distribution models of *Coxiella burnetii* and conduct advanced spatial and temporal modeling and statistical analysis of datasets.

For GG-27, the expert should aid in the identification and selection of regional loci of *Bacillus anthracis* and the corresponding environmental sampling sites, conduct spatial genetic pattern analysis and risk factor mapping of *B. anthracis* using GIS, aid in the production of GIS models of the geographic distribution of *B. anthracis* across the south Caucasus, and serve as a subject matter expert on regional Single Nucleotide Polymorphisms (SNPs), including a well-established Georgian SNP typing panel. Mentorship activities should focus on providing guidance in stringent metrics and international standards in GIS and SNP data interpretation and analysis to NCDC, LMA and NFA scientists.

It is expected that implementation of this requirement will be approximately 13 weeks worth of effort consisting of (a) 3 x 1 week trips (detailed below), (b) up to 1 week before each trip for preparation activities, (c) up to 1 week after each trip for reporting and follow-up actions, and (d) up to 4 additional weeks of effort for coordination and remote reach-back support. The expert is expected to conduct two trips to Tbilisi, Georgia, to provide on-site mentorship to Georgian colleagues for GG-19, GG-20 and GG-27 research projects. Timing for these trips should be determined based on project needs. The expert is also expected to conduct a third trip to attend the regional GG-27/AJ TAP-11 kick-off meeting in Baku, Azerbaijan in October 2015.

The period of performance for this effort will be from 15 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $150,000 is requested by 4 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation
Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8 and leverages information gleaned from discussions with A&AS contractors. A key assumption for this effort is that the Georgian scientists are generally capable of conducting GIS analyses on their own. It is anticipated that the plan for TD-016 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as SME I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:
From the information provided in Box 8, Metabiota assumes that these projects are ongoing affairs led by a third party. In order to effectively ensure that a GIS SME is available to provide the requested in-country mentoring, the Metabiota PM and PC will, upon approval of the TD, continue to engage relevant DTRA CBEP stakeholders to identify how, where, and when project status updates are communicated (for example, monthly teleconference, weekly email exchanges, etc.). Upon approval and receipt of additional information re: GG 19, 20, and 27, the Metabiota PM and PC will identify a GIS SME and work to establish a subcontract or independent consulting arrangement with the SME. The Metabiota PM, PC, and GIS SME will participate in these communications in order to understand when in-country mentoring activities will be required. The Metabiota PM and PC will work with the GIS SME to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or the appropriate DTRO (Tbilisi or Baku).

Mentoring:
Mentoring will consist of both in-country and remote mentoring. After assessing the need for in-person GIS mentoring, the PM, PC, and GIS SME will work with the project teams to elucidate the specific goals, and requirements of each mentoring request to ensure that the mentoring visit is conducted efficiently and effectively. The GIS SME will work with the PM, PC, and appropriate stakeholders in each respective project to create a list of tasks to be accomplished by the Georgian scientists leading up to the mentoring visit, to create a list of topics for the GIS SME to be prepared to assist with during the mentoring visit, and to facilitate the communication and exchange of any necessary data or concepts both prior to and following each mentoring visit.

Reach-back support:
Based on our understanding of the requirements, Metabiota does not expect to be required to provide primary GIS analysis support to any of the three projects, but does expect the GIS SME to be available to occasiona ly provide remote guidance or limited assistance with data analyses. Through regular communications with the respective project teams Metabiota will be made aware of any additional subject matter expertise requests. The GIS SME will address these needs as they arise.

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Cost, Schedule, Performance, Quality						
Unable to communicate with DTRA CBEP technical POCs	The short turnaround combined with the holiday likely led to the non-response to Metabiota requests for communication and background materials on the three Georgia projects. Therefore, the proposal was developed without sufficient context into the true level of GIS subject matter expertise needed to accomplish project goals. Thus our proposed labor solution may be inadequate, impacting cost. It may also impact schedule, performance, and quality, as we may proceed to identify a SME who is incapable of meeting project requirements in a timely fashion or to the satisfaction of project stakeholders.	5	4	(b)(4); (b)(6)	Upon approval, continue efforts to contact DTRA Technical POCs and all other relevant stakeholders (for example, A&AS). During proposal development Metabiota has researched multiple possible SMEs who could potentially address project requirements.	**Med-High**
Schedule / Performance						
The TD indicates potential travel in October	TD was received on 1 September, and indicates travel for an unspecified window in October, placing Metabiota at risk for not meeting CDRL deadlines. Missing the CCR CDRL deadline may result in travel authorization being denied.	5	5	(b)(4); (b)(6)	Ask DTRA if Metabiota may proceed with project coordination activities sans approval; also ask for possibility of receiving formal exemption of meeting CCR deadlines for this first travel.	**Med-High**

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$123,504.43
1003	MATERIALS	$0.00
1004	ODCs	$1,753.69
1005	TRAVEL	$14,256.50
TOTAL		**$139,514.62**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As our Subject Matter Expert may be an independent consultants or subcontractor, the Metabiota PM will additionally provide management oversight of the project subcontractors (GIS SME) and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the

acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipat ng, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM and will manage the GIS SME, including all subcontractors, to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline.

The PC will lead coordination with project stakeholders and will coordinate in-country mentorship dates. The PC will participate in regular communications between the project stakeholders and the GIS SME. The PC will coordinate with stakeholders in order to plan and execute logistical arrangements, and drive the coordination required to sufficiently gather the answers to the logistical questions that will arise in the planning and execution of requested travel for mentoring activities.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the GIS SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Subject Matter Expert 2: The SME 2 will serve as the GIS SME. The SME 2 will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project, the needs and expectations of the Georgian scientists, and the GIS subject matter expertise needed. The SME 2 will provide both in-country and remote mentoring as directed by the respective project leads.

Materials
No materials are expected to be procured for this effort.

Other Direct Costs
Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts
Subcontracts will be issued to SMEs, RDAs, and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Travel is requested to support the GIS SME to Tbilisi, Georgia for two (2) one-week trips to provide mentoring as needed. Travel is also requested to support the GIS SME to Baku, Azerbaijan for one (1) one-week trip to attend the project kickoff of GG-27/AJ TAP-11. The travel budget represents the estimated amount required; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	123,504.43	9/15/2015	5/15/2016
1003	MATERIALS	$	-	9/15/2015	5/15/2016
1004	ODCs	$	1,753.69	9/15/2015	5/15/2016
1005	TRAVEL	$	14,256.50	9/15/2015	5/15/2016
	TOTAL	**$**	**139,514.62**	9/15/2015	5/15/2016

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ $139,514.62

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ $139,514.62

12a. CURRENT PERIOD OF PERFORMANCE
15 Sep 2015 – 15 May 2016

12b. TD REV PERIOD OF PERFORMANCE
15 Sep 2015 – 15 May 2016

13. CONTRACTOR SIGNATURE AND DATE

Signature: _____

Date: _____

14. REGION
EUCOM

15. TECHNICAL POINTS OF CONTACT

(b)(6)
Georgia Country Manage
(b)(6)
Georgia Country Manage
(b)(6)
EUCOM Regional Science Manager
(b)(6)
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

(b)(6)
X
(b)(6)
Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-c-0104	METABIOTA	16	A

4. TD TITLE	5. TOTAL TD ESTIMATE.
Subject Matter Expertise in Geographic Information Systems (GIS) Modeling and Regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia	HOURS: (b)(6) DOLLARS: $ **$150,000.00**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE: (b)(6)	PHONE: EMAIL:

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide expertise in geographic information systems (GIS) modeling and regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia in accordance with SOW, Section 4.4, Task 2 and Task 4. This expertise should be provided by a scientist (SME I or SME II) with experience of working with Former Soviet Union (FSU) researchers and should focus on providing subject matter expertise in GIS modeling and regional SNPs for CBEP-funded research projects GG-19, GG-20 and GG-27.

For GG-19, this expertise should include guidance and mentorsh p of National Center for Disease Control (NCDC) staff on using GIS to determine a risk assessment for exposure to environmental and animal sources of *Francisella tularensis*, and should focus on producing risk assessment maps.

For GG-20, the expert should provide mentorship to Laboratory of Ministry of Agriculture (LMA) and National Food Agency (NFA) personnel on using GIS techniques to manage and visualize (map) the ecological niche and distribution models of *Coxiella burnetii* and conduct advanced spatial and temporal modeling and statist cal analysis of datasets.

For GG-27, the expert should aid in the identification and selection of regional foci of *Bacillus anthracis* and the corresponding environmental sampling sites, conduct spatial genetic pattern analysis and risk factor mapping of *B. anthracis* using GIS, aid in the production of GIS models of the geographic distribution of *B. anthracis* across the south Caucasus, and serve as a subject matter expert on regional Single Nucleotide Polymorphisms (SNPs), inc uding a well-established Georgian SNP typing panel. Mentorship activities should focus on providing guidance in stringent metrics and international standards in GIS and SNP data interpretation and analysis to NCDC, LMA and NFA scientists.

It is expected that implementation of this requirement will be approximately 13 weeks worth of effort consisting of (a) 3 x 1 week trips (detailed below), (b) up to 1 week before each trip for preparation activities, (c) up to 1 week after each trip for reporting and follow-up actions, and (d) up to 4 additional weeks of effort for coordination and remote reach-back support. The expert is expected to conduct two trips to Tbilisi, Georgia, to provide on-site mentorship to Georgian colleagues for GG-19, GG-20 and GG-27 research projects. Timing for these trips should be determined based on p·oject needs. The expert is also expected to conduct a third trip to attend the regional GG-27/AJ TAP-11 kick-off meeting in Baku, Azerbaijan in October 2015.

The period of performance for this effort will be from 15 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $150,000 is requested by 4 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

Proposal Development & Initiation

Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8 and leverages information gleaned from discussions with A&AS contractors. Originally, a key assumption for this effort was that the Georgian scientists are generally capable of conducting GIS analyses on their own. After discussions with some individuals familiar with the level of expertise in Georgia and the scientific goals sought to be accomplished in the stated projects, Metabiota believes that the Georgian scientists will require an increased level of support when conducting GIS analyses. It is anticipated that the plan for TD-016 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as SME I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project

Project Coordination:

From the information provided in Box 8, Metabiota assumes that these projects are ongoing affairs led by a third party. In order to effectively ensure that a GIS SME is available to provide the requested in-country mentoring, the Metabiota PM and PC will, upon approval of the TD, continue to engage relevant DTRA CBEP stakeholders to identify how, where, and when project status updates are communicated (for example, monthly teleconference, weekly email exchanges, etc.). Upon approval and receipt of additional information re: GG 19, 20, and 27, the Metabiota PM and PC will identify a GIS SME team and work to establish a subcontract or independent consulting arrangement with the SME team. The Metabiota PM, PC, and GIS SME(s) will participate in these communications in order to understand when in-country mentoring activities will be required. The Metabiota PM and PC will work with the GIS SME(s) to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any

need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or the appropriate DTRO (Tbilisi or Baku).

Mentoring:
Mentoring will consist of both in-country and remote mentoring. After assessing the need for in-person GIS mentoring, the PM, PC, and primary GIS SME will work with the project teams to elucidate the specific goals, and requirements of each mentoring request to ensure that the mentoring visit is conducted efficiently and effectively. The primary GIS SME will work with the PM, PC, and appropriate stakeholders in each respective project to create a list of tasks to be accomplished by the Georgian scientists leading up to the mentoring visit, to create a list of topics for the primary GIS SME to be prepared to assist with during the mentoring visit, and to facilitate the communication and exchange of any necessary data or concepts both prior to and following each mentoring visit.

Reach-back support:
Based on our updated understanding of the requirements and the proposed scope of the projects, Metabiota now expects to be required to provide significant GIS analysis support to the three projects, but does expect to place a significant focus on transitioning this expertise to the Georgians. Through regular communications with the respective project teams, Metabiota will be made aware of any additional subject matter expertise requests. The GIS SME will address these needs as they arise.

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Cost, Schedule, Performance, Quality						
Disconnect between requirements provided in TD and requirements as indicated in Forms A	The original proposal was developed without sufficient context into the true level of GIS subject matter expertise needed to accomplish project goals. After receiving Forms A for each of the three research projects and having discussions with the GIS SME who designed the work and the project leads, Metabiota feels that there is a disconnect between the requirements provided in the TD and the true GIS subject matter expertise needed to successfully achieve the scientific goals of the projects Thus our original labor solution appears to be inadequate, potentially impacting cost It may also impact schedule, performance, and quality, as GIS subject matter expertise will be executed on a smaller budget than originally planned in the scientific proposals	5	4	(b)(4); (b)(6)	Metabiota is attempting to manage costs by negotiating with the GIS SME team. There may still be significant performance, schedule, and quality risks if GIS SME team's negotiated level of effort is insufficient to accomplish goals	Med-High
Cost						(b)(4); (b)(6)
Proposed level of effort by original GIS SME team is far beyond what was budgeted	After receiving Forms A for each of the three research projects and having discussions with the GIS SME who designed the work and the project leads, Metabiota believes the labor category mix and anticipated level of effort is incorrect. The GIS SME who was originally involved with the three CBR projects estimates this effort to require at a minimum one full-time GIS technician to provide manpower to perform advanced data analysis in addition to higher level SME2 mentorship	5	4	(b)(4); (b)(6)	Metabiota has proposed containing cost inflation by issuing a firm-fixed price level of effort subcontract instead of a time & materials contract.	
Performance						
No material costs were anticipated in the requirements	The GIS SME originally involved with the three CBR projects indicated a low level desire to run some additional laboratory tests to generate cleaner data to feed into the GIS analyses under some of the CBR projects. This requirement was not stated or anticipated prior to the submission of our original proposal, and thus if these additional materials are truly needed, the successful performance of the project may be at risk.	5	2	Med	Metabiota's understanding is that these additional tests (and thus additional materials) are more of a nice to have, rather than a need to have. As each of these projects is being funded through at least one other mechanism, Metabiota will coordinate closely with the CBR projects' leads and potentially seek other avenues for those procurements should they be determined to be an urgent need.	

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$123,494
1003	MATERIALS	$0
1004	ODCs	$1,754
1005	TRAVEL	$14,257
TOTAL		**$139,504.14**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

Labor
Costs for direct labor to support this activity is required for the following personnel:

All phases:
Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As some of our Subject Matter Experts and Research and Data Analysts may be independent consultants or subcontractors, the Metabiota PM will additionally oversee and ensure that all project personnel adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PM will provide management oversight of the project team, including subcontractors and independent consultants throughout the span of the project.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM and will manage the GIS SME, including all subcontractors, to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline.

The PC will coordinate with the project stakeholders to identify travel dates. The PC will participate in regular communications between the project stakeholders and the GIS SME. The PC will drive the coordination required to sufficiently gather the answers to the logistical questions that will arise in the planning and execution of requested travel for mentoring activities.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the GIS SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Subject Matter Expert 2: The SME 2 will serve as the primary GIS SME. The SME 2 will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project and the GIS subject matter expertise needed. The SME 2 will provide both in-country and remote mentoring as directed by the respective project leads.

Research and Data Analysts (RDAs): It is anticipated that the SME 2 will employ multiple RDAs with GIS expertise to assist him in mentoring the Georgian scientists in the advanced GIS techniques proposed in the three research projects and to assist in performing data analysis, technical writing, and other research duties as needed.

Materials
No materials are expected to be procured for this effort.

Other Direct Costs
Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Subcontracts
Subcontracts will be issued to SMEs, RDAs, and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget. Metabiota anticipates issuing a firm-fixed price level of effort (FFPLOE) contract to the GIS SME team as a mechanism for controlling costs, as Metabiota expects that the cost for the total number of hours worked by the SME2 and RDAs to far exceed the previously budgeted amount.

Travel
Travel is requested to support the GIS SME to Tbilisi, Georgia for two (2) one-week trips to provide mentoring as needed. Travel is also requested to support the GIS SME to Baku, Azerbaijan for one (1) one-week trip to attend the project kickoff of GG-27/AJ TAP-11. The travel budget represents the estimated amount required; precise numbers may vary depending on factors beyond Metabiota control. Travel on the AEP contract is cost reimbursable.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV.

$ _____$0_____

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ _____$0_____

12a. CURRENT PERIOD OF PERFORMANCE

_15 Sep 2015 –15 May 2016___

12b. TD REV PERIOD OF PERFORMANCE

___15 Sep 2015 – 15 May 2016_____

13. CONTRACTOR SIGNATURE AND DATE

Signatur (b)(6)

Date: 22 November 2015

14. REGION

EUCOM

15. TECHNICAL POINTS OF CONTACT

Georgia Country Manager (b)(6)

(b)(6)

Georgia Country Manager

(b)(6)

EUCOM Regional Science Manager (b)(6)

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

Dr (b)(6)

COR / J3CTB Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

From: (b)(6)
To:
Cc:

Subject: TD-017 Georgia Grantsmanship SME
Date: Monday, September 14, 2015 10:38:54 AM
Attachments: CTR-CBEP_AEP_TD-017_GG_Grantmanship_SME.docx

Hi (b)(6)

Please find attached TD-01 7 for grantsmanship support and mentorship in Georgia. Your response is requested by 17 September 2015.

Cheers.

(b)(6)

Deputy Chief Scientist
Cooperative Biological Engagement Program
Cooperative Threat Reduction
Defense Threat Reduction Agency
Email (b)(6)
Phone
Mobil

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	17	

4. TD TITLE

Grantsmanship Support and Mentorship in Georgia

5. TOTAL TD ESTIMATE:

HOURS: (b)(6) DOLLARS: $ **$150,000.00**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHONE: (b)(6) EMAIL

7. CONTRACTOR POC

NAME (b)(6)

PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide expertise in grantsmanship at the Richard G. Lugar Center for Public Health Research and at the Laboratory of the Ministry of Agriculture in Georgia in accordance with SOW, Section 4.3, Task 3 and Section 4.5, Task 5. This expertise should be provided by a scientist (SME I or SME II) with experience in proposal development mentoring and should provide guidance in preparing and submitting grant proposals to the DTRA Broad Agency Announcement (BAA) or other competitive research solicitations. More specifically, the mentor should focus on providing mentorship in the following areas: (a) assist National Center for Disease Control (NCDC) researchers with accurate development of direct and indirect costs as part of the proposal preparation, (b) assist Laboratory of Ministry of Agriculture (LMA) personnel with proposal development and submission processes to include development of scientific hypotheses, analysis of research data, drafting of white papers and full proposals, and reviewing proposal evaluations and recommendations.

It is expected that implementation of this requirement will require approximately 13 weeks of effort consisting of 2 x 1 week trips to Tbilisi, Georgia, with additional time allotted for pre- and post-trip activities and follow-up actions, in order to provide on-site mentorship to Georgian colleagues. Timing for these trips should be determined based on project needs. An additional 7 weeks of effort is anticipated for coordination, document reviews, and remote reach-back support.

The period of performance for this effort will be from 21 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $150,000 is requested by 17 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $0

12a. CURRENT PERIOD OF PERFORMANCE

21 Sep 2015 –15 May 2016

12b. TD REV PERIOD OF PERFORMANCE

21 Sep 2015 – 15 May 2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:

Date:

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM	Georgia Country Manager (b)(6) (b)(6) Georgia Country Manager (b)(6) (b)(6) EUCOM Regional Science Manager (b)(6) (b)(6)	X (b)(6) COR / J3C1B Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

TD 017 Georgia SME Grantsmanship

Objectives

Provide mentorship in all aspects of Grantsmanship to POCs at the Lugar Center in Georgia. In particular, Metabiota will provide guidance on understanding direct indirect costs to NCDC, and work with LMA on all aspects of Grantsmanship.

Period of Performance: 09/21/15 – 05/15/16

CLIN	Total POP	Total Invoiced	Total Remaining
1002	$125,669.00	$14,608.58	$111,060.42
1003	$1,842.00		$1,842.00
1004	$948.00		$948.00
1005	$8,273.00		$8,273.00
TOTAL	$136,732.00	$14,608.58	$122,123.42

CLIN 1002 – Labor

Program Manager: 25.5 Hours

(b)(6) drafted and prepared the final proposal in response to the technical direction received in August, including the development of the project budget. He identified the most qualified performers and held meetings to discuss requirements, negotiated terms, and finalized the subcontract agreement in order to begin implementation. Additionally, he scheduled and participated in meetings with the grantsmanship mentoring recipients to discussed the effort with all stakeholders.

Research and Data Analyst: 4 Hours

(b)(6) provided administrative support to (b)(6) in preparation of subcontract documents.

Subject matter 1: 15 Hours

(b)(6) assisted with the review of the Technical Direction requirements and preparation of the final proposal. She then prepared the required documents necessary to finalize the subcontract agreement with the performers. She also participated in project coordination calls with (b)(6) and (b)(6)

Subject Matter Expert 2: 52 Hours

Subcontractor (b)(6) employed SME's (b)(6) to begin discussions with stakeholders to fully understand the needs in order to perform effectively. SMEs also participated in negotiations and finalization of the subcontract agreement. (b)(6) MEs began development of a comprehensive grantsmanship mentoring plan, tailored to each institute, including preliminary schedules for tasks.

CLIN 1003 – Materials and Supplies

No costs invoiced.

CLIN 1004 – ODCs

No costs invoiced.

CLIN 1005 – Travel
No costs invoiced.

Metabiota

Invoice:		**Invoice End Date**	10/31/15
Invoice Amount	**$ 14,608.58**	**Invoice Due Date**	
Remit To:		**Bill To:**	
Metabiota,Inc.		Defense Threat Reduction Agency	
1 Sutter Street, Suite 600		8725 John J. Kingman Rd.	
San Francisco		Ft. Belvoir	
CA		VA	
94104		22060-6201	

TO 017- Georgia SME

CLIN 1002

NAME	LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED
(b)(4); (b)(6)	Program Manager	(b)(4); (b)(6)	25.50	$	25.50	$
	Research and Data Analy		4.00	$	4.00	$
	Subject Matter Expert 1		15.00	$	15.00	$
	Subject Matter Expert 2		30.50	$	30.50	$
	Subject Matter Expert 2		21.50	$	21.50	$
			96.50	$	96.50	$

TD 018 Georgia Visiting Scientist Genomics

Objectives

Metabiota will provide subject matter expertise in genomics for the purpose of providing mentorship and guidance to Georgian scientists at the Lugar Center, especially in support of CBEP-funded research projects. The genomics SME will

Period of Performance: 09/21/15 – 05/15/16

CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$361,460.00	$36,517.13	$324,942.88
1003	$4,579.00		$4,579.00
1004	$14,180.00		$14,180.00
1005	$4,217.00		$4,217.00
TOTAL	$384,436.00	$36,517.13	$347,918.88

CLIN 1002 – Labor

Program Manager: 22 Hours

(b)(6) utilized hours on this program to prepare and submit a proposal in response to the received technical direction including discussions with stakeholders to ensure the proposal fully encompasses all TD needs and requirements. He then utilized hours to identify the most qualified genomics expertise and oversee completion of the subcontract and onboarding.

Subject matter 1: 9.5 Hours

(b)(6) assisted with proposal development. She also utilized hours to assist with finalizing the subcontract with Jason Farlow and coordinate the project kickoff.

Visiting Scientist 112 Hours

(b)(6) s working with Lugar Center staff to acquaint them with publicly available genome databases. He began mentoring o(b)(6) in comparative genomics to examine the in-country anthrax vaccine strain STI. Preliminary results suggest a significant variance between the Georgian STI strain and the reference STI strain reported by(b)(6) He identified the need for the Lugar Center microbiologists to potentially modify testing procedures for bacterial strains that do not react to established pathogen-specific antisera.

CLIN 1003 – Materials and Supplies

No costs invoiced.

CLIN 1004 – ODCs

No costs invoiced.

CLIN 1005 – Travel

No costs invoiced.

Metabiota

Invoice:		**Invoice End Date**	10/31/15
Invoice Amount	**$ 36,517.13**	**Invoice Due Date**	
Remit To:		**Bill To:**	
Metabiota,Inc.		Defense Threat Reduction Agency	
1 Sutter Street, Suite 600		8725 John J. Kingman Rd.	
San Francisco		Ft. Belvoir	
CA		VA	
94104		22060-6201	

TD 018 Georgia Genomics

CLIN 1002 LABOR

NAME	LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED
(b)(4); (b)(6)	Program Manager	(b)(4); (b)(6)	22.00	(b)(4); (b)(6)	22.00	$ (b)(6)
	Subject Matter Expert 1		9.50		9.50	$
	Visiting Scientist		112.00		112.00	$
			143.50		143.50	$

From: (b)(6)
To:
Cc:
Subject: [Non-DoD Source] Re: TD-016 Rev B: Georgia GIS and TD-018 Rev A: GG Genomics VS-SM
Date: Friday, May 13, 2016 2:59:58 PM
Attachments: Draft_CTR-AEP-CBEP_TD-018RevA_GG_Genomics VS-SM.pdf

Colonel (b)(6)

Please find our signed TD attached. We recognize this TD extends our period of performance, but does not change any other components of the previously approved activity.

As requested in your email below, we will provide a response to TD-016 no later than COB 17 May 2016.

Best regards,

(b)(6)
Deputy Program Director - AEP
Metabiota, Inc.
email: (b)(6)
Mobile
Skype:

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

On 5/13/16, 1:28 PM, "(b)(6)" (b)(6) wrote:

>Please find the following TDs attached:
>
>(1) TD-016 Rev B Rev A - Extends the Period of Performance (PoP) from 15 May 2016 to 15 November 2016 with additional funds required to continue providing expertise in geographic information systems (GIS) modeling and regional Single Nucleotide Polymorphisms (SNPs) at the Richard G. Lugar Center for Public Health Research in Georgia. Response to TD regarding your technical approach is requested by COB 17 May 2016.
>
>(2) TD-018 Rev A - Extends the Period of Performance (PoP) from 15 May 2016 to 15 August 2016 at no additional cost.
>
>Please note the following:
>
>*TD-017 - Will not be extended.
>*TD-019 - Tech team still assessing TD requirements.

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	018	A

4. TD TITLE
On-site Expertise in Genomic Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia

5. TOTAL TD ESTIMATE:
HOURS. _____ DOLLARS: $ **$0**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-018 from 15 May 2016 to 15 August 2016 at no additional cost. This PoP extension is to provide enough time to continue providing on-site expertise in genomic research activities at the Richard G. Lugar Center for Public Health Research in Georgia. Metabota should coordinate directly with the Techn cal POCs identified below No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV.
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$0**

12a. CURRENT PERIOD OF PERFORMANCE
21-SEP-2015 – 15 MAY 2016

12b. TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 15-AUG-2016

13. CONTRACTOR AUTHORIZED SIGNATURE AND DATE
(b)(6)
Signature: _____
Date: 15 May 2016

14. REGION
EUCOM/ Georgia

15. TECHNICAL POINTS OF CONTACT
Georgia Country Manager: (b)(6)
(b)(6)
EUCOM Regional Science Manager: (b)(6)
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X
(b)(6)
COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
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10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

>
>Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also Cc'd), if you have any technical questions.
>
>Thanks,
>
>
(b)(6)

>Program Manager, Academic Engagement Partnership (AEP) Program
>J3CTB/Cooperative Biological Engagement Program
>8725 John J. Kingman Rd
>Ft Belvoir, VA 22060
(b)(6)

>
>
>

From: (b)(6)
To:
Cc:

Subject: TD-019 Georgia Microbiology Vistity Scientist/Scientific Mentor
Date: Monday, September 14, 2015 10:39:13 AM
Attachments: CTR-CBEP_AEP_TD-019_GG Microbiology VS-SM.docx

Hi (b)(6)

Please find attached TD-01 / for microbiology visiting scientist or scientific mentor at the Richard Lugar Center for Public Health Research in Georgia. Your response is requested by 17 September 2015.

Cheers,

(b)(6)
Deputy Chief Scientist
Cooperative Biological Engagement Program
Cooperative Threat Reduction
Defense Threat Reduction Agency
Email: (b)(6)
Phone:
Mobile

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	19	

4. TD TITLE

On-site Expertise in Microbiology Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia

5. TOTAL TD ESTIMATE.

HOURS. (b)(6) DOLLARS: $ **$380,000.00**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHONE AIL (b)(6)

7. CONTRACTOR POC

NAME (b)(6)

PHONE EMAIL. (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide on-site expertise in microbiology research activities at the Richard G. Lugar Center for Public Health Research in Georgia in accordance with SOW Section 4.2, Task 2, Section 4.4, Task 4, Section 4.5, Task 5, and Section 4.6, Task 6. This expertise can be provided by a visiting scientist and/or scientific mentor and should focus on providing subject matter expertise in microbial research for CBEP-funded research projects conducted at the Lugar Center. The expertise should include guidance and mentorship on designing and implementing experimental procedures, troubleshooting methodology, and analyzing data for on-going research projects at the Lugar Center. The expert should provide technical and scientific assistance in the conduct of research projects and implementation of new diagnostics, new technology and sustainability initiatives. Additionally, the expert should assist to improve communications and integration between Georgian institutes and with international agencies collaborating on Lugar Center research efforts.

Mentorship activities should focus on providing guidance in stringent metrics and international standards in data collection, analysis and data interpretation. Additionally, the research mentor should assist Georgian researchers with manuscript preparation of CBEP-funded research for submission to peer-reviewed scientific journals. This on-site interaction should facilitate motivation towards independent knowledge-building inquiry and critical thinking skills needed for future sustainable research.

The period of performance for this effort will be from 21 September 2015 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $380,000 is requested by 17 September 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ $0 11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV: $ $0	21 Sep 2015 –15 May 2016 12b. TD REV PERIOD OF PERFORMANCE 21 Sep 2015 15 May 2016	Signature:_____ Date:_____

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM	Georgia Country Manager, (b)(6) (b)(6) Georgia Country Manager (b)(6) EUCOM Regional Science Manager (b)(6) (b)(6)	X Dr (b)(6) COR / J3C IB Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
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12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

TD 019 Georgia Visiting Scientist Microbiology

Objectives

Metabiota will provide subject matter expertise in microbiology for the purpose of providing mentorship and guidance to Georgian scientists at the Lugar Center, especially in support of CBEP-funded research projects.

Period of Performance: 09/21/15 – 05/15/16

CLIN	Total ROM	Total Invoiced	Total Remaining
1002	$361,460.00	$46,377.37	$315,082.63
1003	$2,472.00		$2,472.00
1004	$14,180.00		$14,180.00
1005	$4,217.00		$4,217.00
TOTAL	$382,329.00	$46,377.37	$335,951.63

CLIN 1002 – Labor

Program Manager: 42 Hours

(b)(6) repared and submitted the proposal response to the technical direction received in August. This included communications with CBR project leads to ensure full understanding of the needs of this technical direction. His hours were then used to identify the performer (b)(6) and oversee the coordination of his contractual agreements, including the negotiation of terms, and began the process of onboarding (b)(6) to the program.

Subject matter 1: 4 Hours

(b)(6) utilized hours to assist with the proposal development.

Visiting Scientist 139 Hours

(b)(6) hours were used in supporting work at the Batumi Zonal Diagnostic Laboratory on avian influenza PCR work by troubleshooting their assays at the Lugar Center. Metabiota VS assisted with troubleshooting of Rotor-Gene PCR instruments at Batumi. He began assisting NCDC with preparations and planning for the installation of a GC/MS instrument funded by UNICRI to enhance NCDC relationships with international organizations and provide the foundation for a potential proteomics capability which may be leveraged in future research, as well as biosafety and biosecurity efforts. He also met with a field team from LMA to help prepare them for a seroprevalence study among animal workers and animals.

CLIN 1003 – Materials and Supplies

No costs invoiced.

CLIN 1004 – ODCs

No costs invoiced.

CLIN 1005 – Travel

No costs invoiced.

Metabiota

Invoice:		**Invoice End Date**	10/31/15
Invoice Amount	**$ 46,377.37**	**Invoice Due Date**	
Remit To:		**Bill To:**	
Metabiota,Inc.		Defense Threat Reduction Agency	
1 Sutter Street, Suite 600		8725 John J. Kingman Rd.	
San Francisco		Ft. Belvoir	
CA		VA	
94104		22060-6201	

TD-019 Georgia Microbiology

CLIN 1002

NAME	LABOR CATEGORY	RATE	CURRENT HOURS	CURRENT INVOICE	CUMULATIVE HOURS	CUMULATIVE INVOICED
(b)(4); (b)(6)	Program Manager	(b)(4); (b)(6)	42	(b)(4); (b)(6)	42	$ (b)(4); (b)(6)
	Subject Matter Exper		4		4	$
	Visiting Scientist		139		139	$
			185		**185.00**	**$**

From: (b)(6)
To:
Cc:

Subject: Re: [Non-DoD Source] Re: TD-017 Rev A: GG Grantsmanship SME and TD-019 Rev A: GG Microbiology VS
Date: Wednesday, June 01, 2016 3:04:51 PM
Attachments: CTR-AEP-CBEP_TD-019RevA_GG Microbiology VS-SM_Signed_1Jun2016.pdf

(b)(6)

Please find our countersigned TD-019 RevA attached.

Best regards,
(b)(6)

On 6/1/16, 2:58 PM, (b)(6) "Lt Col USAF DTRA J3-7 (US)" (b)(6) wrote:

>The proposed approach is approved for TD-019 Rev A. I deleted the extra table, Table 2 in block 9b, updated blocks 10 & 11 and signed.
>
>Please send back with your signature as well.
>
>
>Thanks,
>
(b)(6) Col, USAF
gement Partnership (AEP) Program
>J3CTB/Cooperative Biological Engagement Program
>8725 John J. Kingman Rd
>Ft Belvoir, VA 22060
>W: (b)(6)
>Em
>
>
>
>
>-----Original Message-----
>Fro (b)(6)
>Sent: Wednesday, June 01, 2016 10:11 AM
>To (b)(6)
>Cc:
>Subject: Re: [Non-DoD Source] Re: TD-017 Rev A: GG Grantsmanship SME and TD-019 Rev A: GG Microbiology VS
>
>All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd, Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	019	A

4. TD TITLE
On-site Expertise in Genomic Research Activities at the Richard G. Lugar Center for Public Health Research in Georgia

5. TOTAL TD ESTIMATE:
HOURS: _____ DOLLARS: $ **$382,331**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)

7. CONTRACTOR POC
NAME (b)(6)
PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-018 from 15 May 2016 to 15 November 2016. This PoP extension is to continue providing on-site expertise in microbiology research activities at the Richard G. Lugar Center for Public Health Research in Georgia. Metabota should coordinate directly with the Technical POCs identified below. Your technical approach as outlined in TD-019, proposed budget, and basis of estimate for continuing this requirement, not to exceed $342,000 is requested by 17 May 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below. No further changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Proposal Development & Initiation:
Metabiota developed a project plan and implementation strategy, which aligns with narrative from Box 8 of the original version of the TD. A key assumption for this effort is that the Georgian scientists are generally capable of conducting microbiological analyses on their own but that the requested support personnel will occasionally be asked to directly perform microbiological analyses. A second key assumption for this effort is that it is expected to be a full-time expat position. It is anticipated that the plan for TD-019 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as Subject Matter Expert (SME) I) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Project Coordination:
From the information provided in Box 8, Metabiota assumes that the unspecified CBEP-funded research projects are ongoing affairs led by third parties. In order to effectively ensure that an appropriate microbiology subject matter expert (microbiology SME, billed as a Visiting Scientist/VS) is available to provide the requested mentoring, the Metabiota PM and PC will, upon approval of the TD, continue to engage relevant DTRA CBEP and Lugar Center stakeholders to identify how, where, and when project status updates are communicated (for example, monthly teleconference, weekly email exchanges, etc.) and what the onboarding and daily requirements are for working at the Lugar Center. Upon approval and receipt of additional information, the Metabiota PM and PC will identify a VS and work to either onboard them as a Metabiota employee, or establish a subcontract or independent consulting arrangement with the VS. The Metabiota PM, PC, and VS will participate in project communications in order to understand what mentoring activities will be required. The Metabiota PM and PC will work with the VS to ensure that all necessary documentation required prior to travel is completed correctly and submitted on time, and that all trip reports are filed on time. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS and/or DTRO-Tbilisi.

Mentoring and Performance of Microbiological Research.
Mentoring will consist of in-country mentoring. Based on our understanding of the requirements, Metabiota does not expect to be required to provide primary microbiological analysis support to the various projects being conducted at the Lugar Center. The PM and PC will maintain regular communications with the VS to ensure that the VS has all required resources for mentoring. After assessing the need for microbiology mentoring, the VS will work with the PM, PC, and other appropriate stakeholders to develop mentoring work plans. The VS will then implement the mentoring work plans, only assisting with actual analyses and scientific writing when necessary

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN)
Table 1: Incremental funding requested for 16 May 2016 – 15 November 2016, per CLIN. Please note that labor rates have changed.

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$323,696.71
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$323,696.71**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES

Labor

Costs for direct labor to support this activity is required for the following personnel:

All phases:

Metabiota Program Manager: The Metabiota PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

The Metabiota PM will additionally provide management oversight of the microbiology SME and the integration with other project stakeholders throughout the duration of this project. The PM will also ensure that all project personnel (Metabiota and any subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Metabiota Subject Matter Expert 1: The Metabiota SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to the funder. The PC will regularly communicate the project status with the PM. The PC will manage the microbiology SME, to include leading regular coordination calls with the microbiology SME, participating in regular communications between the project stakeholders and the microbiology SME, and coordinating with the microbiology SME to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline. The PC will aid the PM and VS in ensuring project startup and closeout are completed to the satisfaction of the funder.

The Metabiota PC will aid the PM in ensuring that all personnel adhere to operational requirements imposed by DoD or DTRA CBEP standard operating procedures. As the microbiology SME may be unfamiliar with DoD contracting, the Metabiota PC will assist the SME and/or their organization with adhering to DoD contracting requirements, to include developing Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PC will provide continuing management oversight over the subcontractors and independent consultants throughout the span of the project.

Visiting Scientist: The VS will serve as the microbiology SME. The VS will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project, the needs and expectations of the Georgian scientists, and the microbiological subject matter expertise needed. The VS will provide mentoring as directed by the respective project leads. The VS will be working full time on this effort.

Materials

No additional material procurements are anticipated on this effort, and thus no additional funds are being requested on this CLIN through the extended period of performance.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be applied for labor costs incurred overseas. Metabiota maintains a blanket DBA policy for all personnel and will add the VS and any other performers meeting DBA requirements to this policy as they are engaged. A reconciliation of the total DBA will be performed prior to final invoicing to ensure accuracy of the charges, in accordance with total hours worked. If necessary, final invoicing will be adjusted to reflect the final DBA allocation numbers. At this time, no additional funds are being requested for DBA, as the previously requested amount for CLIN 1004 should be sufficient to cover further DBA costs.

Travel

Travel is requested to support the deployment of the VS to Batumi, Georgia or other locations within Georgia as needs arise. At this time, no additional funds are being requested for travel, as the previously requested amount for CLIN 1005 should be sufficient to cover one additional trip. Travel on the AEP contract is cost reimbursable.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	323,696.71		
1003	MATERIALS	$	-		
1004	ODCs	$	-		
1005	TRAVEL	$	-		
	TOTAL	**$**	**323,696.71**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ $323,696.71 11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV: $ $706,027.71	23-SEP-2015 – 15 MAY 2016 12b. TD REV PERIOD OF PERFORMANCE 15-MAY-2016 – 15-NOV-2016	(b)(6) Signatu Date: 1 June 2016

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
EUCOM/ Georgia	Georgia Country Manager (b)(6) (b)(6) EUCOM Regional Science Manager (b)(6) (b)(6)	(b)(6) X (b)(6) COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

>
>
>
>
>----
(b)(6)

>My apologies for the delay in submitting our response for this TD. Please find attached TD-017 RevA and TD-019 RevA, which addresses the comments listed below.
>
>Please let us know if you have any additional questions.
>
>Best regards,
(b)(6)

>
>
>
>On 5/25/16, 1:23 PM, (b)(6) Lt Col USAF DTRA J3-7 (US)"
(b)(6) wrote:

>>TD-017 Rev A
>>There are some comments/clarifications regarding increase in LMA efforts and labor breakout:
>>
>>Blocks 9a - 9c (Proposed Solution/Budget and TD Solution BOE):
>>(1) Recommend removing the "added" (alterations) that increased LMA efforts. Currently, there is no requirement/need for the increased efforts.
>>
>>Block 9b (Table 1):
>>(2) Within the embedded budget excel sheet, under the tab labeled "Labor Breakout", no data was provided. Please provide labor breakout for the proposed labor hours.
>>(3) Since the budget excel sheet is being updated to reflect the labor breakout, recommend updating all labor rates within the embedded excel sheet to reflect the new rates for completeness. They're updated for the labor categories being used by the current TD; however they're not updated throughout.
>>
>>TD-019 Rev A
>>There are two comments similar to the ones listed above regarding labor breakout:
>>
>>Block 9b (Table 1):
>>(1) Within the embedded budget excel sheet, under the tab labeled "Labor Breakout", no data was provided. Please provide labor breakout for the proposed labor hours.
>>(2) Since the budget excel sheet is being updated to reflect the labor breakout, recommend updating all labor rates within the embedded excel sheet to reflect the new rates for completeness. They're updated for the labor categories being used by the current TD; however they're not updated throughout.
>>
>>Please advise if/how these impact Metabiota's proposed approach and costs.
>>
>>Thanks,
>>
(b)(6)

>>Program Manager, Academic Engagement Partnership (AEP) Program
>>J3CTB/Cooperative Biological Engagement Program
>>8725 John J. Kingman Rd

>>Ft B[redacted]
>>W: (b)(6)
>>Em[redacted]
>>
>>
>>
>>
>>-----Original Message-----
>>From: (b)(6)
>>Sent: Tuesday, May 17, 2016 4:47 PM
>>To: (b)(6)
>>Cc: [redacted]
>>Subject: [Non-DoD Source] Re: TD-017 Rev A: GG Grantsmanship SME and TD-019 Rev A: GG Microbiology VS
>>
> (b)(6)
>
>>Please find our responses to TD-017 Rev A and TD-019 Rev A attached. For your reference and ease of tracking changes Box 9, we have highlighted all changes in yellow.
>>
>>Also, Table 1 (Box 9b) provides a breakdown of cost for this revision (e.g., Rev A) only. To provide additional clarity, we have included an additional table (Table 2), which reflects the total budget (by CLIN) for the all of TD-017 and TD-019.
>>
>>We welcome any feedback you may have regarding our response.
>>
>>Best regards,
(b)(6)
>>Deputy Program Director - AEP
>>Metabiota, Inc.
>>ema(b)(6)
>>Moh
>>Sky[redacted]
>>
>>CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.
>>
>>
>>
>>
>>
>>
>>On 5/13/16, 3:29 PM, "[redacted] (b)(6) D Lt Col USAF DTRA J3-7 (US)" (b)(6) wrote:
>
>
>>>Please find the following TDs attached:
>>>
>>>(1) TD-017 Rev A - Extends the Period of Performance (PoP) from 15 May 2016 to 15 November 2016 with additional funds required to continue providing expertise in grantsmanship at the Laboratory of the Ministry of

Agriculture in Georgia only. Response to TD regarding your technical approach is requested by COB 17 May 2016.

>>>

>>>(2) TD-019 Rev A - Extends the Period of Performance (PoP) from 15 May 2016 to 15 November 2016 with additional funds required to continue providing on-site expertise in microbiology research activities at the Richard G. Lugar Center for Public Health Research in Georgia. Response to TD regarding your technical approach is requested by COB 17 May 2016.

>>>

>>>Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also Cc'd), if you have any technical questions.

>>>

>>>Thanks,

>>>

>>>(b)(6) t Col, USAF
>>>Program Manager: Academic Engagement Partnership (AEP) Program
>>>J3CTB/Cooperative Biological Engagement Program
>>>8725 John J. Kingman Rd
>>>Ft Belvoir, VA 22060
>>>W (b)(6)
>>>E

>>>

>>>

>>>

From: (b)(6)
To:
Cc:

Subject: TD-020: Gabon Initial Engagement SME Support
Date: Tuesday, December 08, 2015 9:10:17 AM
Attachments: CTR-CBEP_AEP_TD-020_Gabon_Engagement SME.docx

Hi (b)(6)

I hope this message finds you well. Please find attached, TD-020 for SME support for initial engagement activities with Gabonese ministerial officials, historical context, technical advise on gap analyses, and CBEP engagement approaches with the Government of Gabon. Response to TD is requested by COB 09 December 2015, for a PoP start of 14 December 2015. Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also copied here), if you have any technical questions.

(b)(6)
Deputy Chief Scientist
Cooperative Biological Engagement Program
Cooperative Threat Reduction
Defense Threat Reduction Agency
Email: (b)(6)
Phone:
Mobile

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	20	

4. TD TITLE	5. TOTAL TD ESTIMATE.
Gabon Initial Engagement SME Support	HOURS. (b)(6) DOLLARS: $ **$50,000**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME (b)(6)
PHONE (b)(6)	PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide a Subject Matter Expert (SME) support on Gabon health systems and laboratory capabilities in accordance with SOW, Section 4.4, Task 2. This SME will provide technical support to the CBEP Gabon Country Manager for initial engagement activities with Gabonese ministerial officials, provide historical context and technical advice on gap analyses, and recommend CBEP engagement approaches with the Government of Gabon.

It is expected that implementation of this requirement will be approximately 100 hours of work consisting of (a) 1 x 7 day trip with CBEP representatives to Gabon in late Jan 2016, (b) bi-weekly (every other week) coordination meetings (est. 1 hour/each) before the trip, (c) weekly coordination meetings (est. 1 hours/each) for approximately 2 months after the trip, (d) written report conveying personal knowledge and expertise as well as engagement recommendations following the trip, (e) review of country engagement strategy documents (est. 5 hours).

The period of performance for this effort will be from 14 December 2015 to 31 March 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $50,000 is requested by 9 December 2015. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES):

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$** -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV.	12a. CURRENT PERIOD OF PERFORMANCE	**13. CONTRACTOR SIGNATURE AND DATE**
$ **$0**	14 DEC 2015 – 31 MAR 2016	Signature:
11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV: $ **$0**	12b. TD REV PERIOD OF PERFORMANCE DD MMM YYYY – DD MMM YYYY	Date:

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
AFRICOM	(b)(6) Gabon Country Manager, (b)(6) AFRICOM Science Manager (b)(6) (b)(6) (b)(6) AEP A&AS Support, (b)(6)	X (b)(6) Dr COR / J3CTB Deputy Chief Scientist

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

From: (b)(6)
To:
Cc:

Subject: Re: [Non-DoD Source] Re: TD-022: Uganda BSV & Grantsmanship Training
Date: Thursday, March 31, 2016 11:34:19 AM
Attachments: CTR-AEP-CBEP_TD-022_UG_BSV Grantsmanship Trng_31Mar2016.pdf

Dear (b)(6)

Thank you for the response. Please find attached the countersigned TD. We will follow up with the appropriate DTRA CBEP POCs moving forward.

Best regards,
(b)(6)

On 3/31/16, 10:10 AM, (b)(6) Lt Col USAF DTRA J3-7 (US)"
(b)(6) wrote:

>The proposed approach is approved. I've updated blocks 9b (expanded cells to show the 2-digit cents), 10 & 11 and signed.
>
>Please send back with your signature as well.
>
>Thanks,
>
(b)(6)
>Program Manager, Academic Engagement Partnership (AEP) Program
>J3CTB/Cooperative Biological Engagement Program
>8725 John J. Kingman Rd
>Ft Belvoir, VA 22060
>W (b)(6)
>E
>
>
>
>
>-----Original Message-----
>From (b)(6)
>Sent: Monday, March 21, 2016 3:03 PM
>To (b)(6)
>Cc
>Subject: Re: [Non-DoD Source] Re: TD-022: Uganda BSV & Grantsmanship Training
>
>All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.
>
>

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3. TD NUMBER
HDTRA1-14-C-0104	METABIOTA	22

4. TD TITLE	5. TOTAL TD ESTIMATE
Uganda Biosurveillance and Grantsmanship Training	HOURS: (b)(6) DOLLARS: $ 170,000.00

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: (b)(6)	NAME: (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHONE (b)(6) EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to provide grantsmanship training and subject matter expert (SME) assistance for the coordination of project design, research proposal development, and implementation of a pilot biosurveillance study in Uganda, in accordance with SOW section 4.4, 4.5 and 4.6. Tasks 4, 5 and 6.

Coordination of such efforts shall focus on the following topics: Ecological and bio-surveillance for Rift Valley fever (RVF) among domestic and wild animal populations in Uganda; Exploring the distribution and characteristics of avian influenza (AI) viruses in migratory waterfowl and poultry in Uganda; and Genetic and epidemiological insights into the occurrence of peste des petits ruminants virus (PPRV) among sheep, goats, cattle, and wildlife in northern Uganda.

The project design and research proposal(s) to be coordinated by Metabiota shall emphasize bio-surveillance of RVF, PPRV, and AI in Uganda and how the collection of this data would help enhance the surveillance capabilities of the country at the national level. It shall also include assistance in the development of standard operating procedures (SOPs) for the projects (e.g., biosafety/biosecurity, sample collection/handling/transport, laboratory analysis, data analysis) with the goal of enhancing local capabilities and developing the skills necessary for the early detection and prevalence determination of RVF, AI, and PPR. Metabiota will perform the following activities during the period of performance:

1. Phase One: Metabiota shall collaborate with CBEP's Ugandan research partners and coordinate with them to develop a work plan for implementation of all of the activities noted below, including project design (development of a research plan) and development of a high-quality, competitive research proposal or proposals (more details below). Metabiota should provide a PM and a SME1 to manage this coordination. The SME1 and PM should reach out directly to the POCs listed below to discuss their vision for the development of a research grant and to discuss additional SME support needed. Ugandan partners on this project are SMEs in various areas and their skills/expertise should be leveraged in accomplishing the goals of this project. The Metabiota PM and SME1 should also review the concept notes already developed by the collaborators that describe their research interests. The SME1 hours required for this should not exceed 25 hours total for maximum 3-5 weeks of coordination. PM oversight should not exceed 25 hours total for this phase.

   Ugandan collaborators should include personnel from the following institutions/organizations:
   a. The National Animal Disease Diagnostics and Epidemiology Centre (NADDEC). POC (b)(6) (b)(6).
   b. The National Livestock Resources Research Institute (NaLIRRI). POC (b)(6) (b)(6)
   c. The African Field Epidemiology Network (AFENET). POC (b)(6)
   d. The Ministry of Health, Division of Veterinary Public Health (MoH-DVPH). POC (b)(6) (b)(6)
   e. The Uganda Wildlife Authority. POC Dr (b)(6)
   f. CDC- POC (b)(6)
   g. The Ministry of Health, Uganda Virus Research Institute (MoH-UVRI). POC (b)(6) (b)(6)
   h. Ministry of Agriculture, Animal Industry and Fisheries (MAAIF). (b)(6) Tel. contact (b)(6)

   Phase One deliverables: Work plan with project design and timeline with clear roles and responsibilities

2. Phase Two: Metabiota shall assist the collaborators identified in Phase 1 with the development of a detailed research plan (experimental design) and research proposal(s), including budget, for epidemiologic studies/bio-surveillance research of RVF, AI, and PPR in Uganda based on the needs and research interests of the identified collaborators. These needs are already described in three concept notes developed by the Ugandan collaborators. The determination of whether one joint proposal or separate proposals will be developed will be made in partnership with Ugandan collaborators. The research plan shall include comprehensive descriptions of the hypothesis and research questions; development of a list of materials

and supplies to accomplish the research studies; and SOPs planned for the collection of samples, including field, laboratory, and data analytics, as well as a discussion of biosafety and biosecurity risks and mitigations (e.g. infectious sample transport and handling). CBEP expectation is for Metabiota to provide the collaborators with SME support (Metabiota and Ugandan SMEs) to inform the development of the proposal(s) that the Ugandan collaborators will write. Metabiota is not expected to write the grant proposal, but to provide oversight regarding the development of hypotheses, research design, and the research proposal writing process. The concept notes are well-developed, but will need to be strengthened to provide additional detail on sample size calculations, sample analysis procedures, data analysis methods, and other specifics to make them competitive research proposals. Metabiota should support the Ugandan collaborators in exploring potential funding options, not only DTRA, and assist them in tailoring their proposal(s) to specific funding opportunities.

To complete this task, Metabiota should provide up to 3 SMEs, including 1-2 from Metabiota and one Ugandan non-governmental SME (i.e. AFENET). Each SME should spend no more than 60 hours total over a maximum of 6 weeks to provide input/feedback and grantsmanship expertise to the research plan (experimental design) and the research proposal(s) developed by the Ugandan collaborators. PM oversight of the SMEs' review and coordination of activities should not exceed 30 hours total for Phase Two.

Phase Two deliverables: Project proposal(s) with budgets and SOPs

3. Phase Three: After completion of activities described in Phase 2, Metabiota shall also provide technical expertise to train stakeholders and work with them to conduct small pilot studies in Uganda to test the SOPs developed for the larger surveillance studies in the proposal(s) to determine their effectiveness and the viability of the project design on a smaller scale. Metabiota shall provide no more than 5 medium-level trainers to assist in the pilot studies. Trainers may be a mix of Metabiota and Ugandan trainers or mostly/all Ugandan trainers, which would be viewed as a strong approach to enhance sustainability of CBEP's investment. The training should consist of one in-country activity as well as continued coordination via email, phone, webinar, or a similar lower-cost communication/coordination mechanism throughout the pilot study period.

   Phase Three, Part One: Preparation and coordination in advance of the in-country training and pilot studies should take no more than 6 weeks, and may begin during Phase Two to maximize efficiency, especially for the definition of the scope and timelines for the pilot studies and the procurement of materials needed for the pilot studies. Coordination will be between Metabiota and all the POCs listed above, as well as identified SMEs/trainers, if different from the above. Training materials should be discussed and obtained during this phase. The training materials will be developed from the project proposal and SOP documents, existing training materials owned/obtained by the Ugandan collaborators, and additional supplemental material as needed. If Metabiota and Ugandan collaborators agree that some necessary training materials do not already exist and need to be developed, the team may work together to augment existing materials. A PM, SME1, and a maximum of 5 medium-level trainers would be an appropriate mix to accomplish the efforts in this phase. Trainers should have expertise in the Ugandan public health, veterinary, and wildlife systems as well as local research methods and processes. Not all people need to participate in all tasks at all times during this planning and coordination, and resources should be conserved to include only the necessary individuals at each step. SME1 hours during Phase Three, Part One should not exceed 40 hours; 55 hours if training materials need to be developed. Hours per trainer for preparation and coordination should not exceed 10 hours; 25 hours if they need to participate in development of training materials. PM hours dedicated to oversight of this planning and preparation should not exceed 30 hours.

   Phase Three, Part Two: The in-country training shall be conducted over a period of 10 working days (5 days per week for 2 separate weeks and should include no more than 20 trainees, to be identified by the Ugandan collaborators, across the 3 pilot studies). The training may be conducted as one comprehensive event, providing overarching skills, knowledge and guidance in a way that it will benefit all three projects; or it may be divided into sections for more focused training on the individual projects; or it may be a combination, with some parts together and some break-out or working group sessions that are more specific. Metabiota should collaborate with the Ugandan POCs and trainers to determine the best approach. The PM, SME1 and trainers' time should not exceed 10 hours per day of training. One day before or after the training for in-person coordination for the pilot studies would be appropriate and should not exceed 8 hours of labor each for the PM, SME1, trainers, and pilot study project leads. It would be acceptable for the trainers and pilot study project leads to be the same people in some cases, as appropriate. PM level of effort should be less than the SME1 given oversight vs. implementation role.

   Phase Three, Part Three: Metabiota will provide management oversight and support to the Ugandan partners in implementation of three pilot field studies. The Ugandan collaborators are in the process of receiving appropriate permits and sample collection can only commence following DTRA Research Oversight Board (ROB) approvals. This activity shall include the procurement of materials and supplies required for the pilot studies, not to exceed $100,000. Metabiota shall work with the Ugandan partners to identify the most efficient, cost-effective way to

procure materials and supplies. Pilot study project leads and field technicians' level of effort should not exceed 680 hours over 8 weeks for pilot study implementation and oversight. There should be no more than 3 pilot study project leads and 11 technicians total supported by Metabiota for all three pilot studies. PM and SME1 hours dedicated to pilot study implementation guidance and oversight should not exceed 60 hours over 8 weeks. PM level of effort should be less than the SME1 given oversight vs. technical SME support role.

The following information and study objectives are provided for reference for proposal development (longer term objectives) and pilot study design/implementation (shorter term objectives). The concept notes developed by the Ugandan collaborators are attached for more detail. The pilot studies should focus on validating the SOPs developed as part of the longer-term study design and proposal development in Phase 2, and on conducting sample collection, lab analysis, and data analysis on a small subset of the various animal populations noted below.

Study 1 - The portion of the project regarding ecological and biosurveillance for Rift Valley Fever (RVF) among domestic and wild animal populations In Uganda shall address the following objectives:

a. Determine the inter-epidemic seroprevalence of RVF in a sample population of relevant domestic animals and wildlife in study areas with clearly identified serotypes. Training in this area should establish better methods for the biosurveillance of epizootic and zoonotic diseases in Uganda.
b. Create/improve contingency plans for RVF outbreaks ready for implementation at the central and local district levels through collaboration with a Ugandan government representative specializing in disease prevention and control as well as outbreak containment in Uganda.

Study 2 - The portion of the project focused on exploring the distribution and characteristics of avian influenza viruses (AIVs) in migratory waterfowl and poultry in Uganda shall include these specific objectives:

a. Establish temporal and spatial distribution and prevalence of AIVs in a sample population of waterfowl and domestic poultry in Uganda.

Study 3 - The portion of the project regarding the genetic and epidemiological insights into the occurrence of peste des petits ruminants virus (PPRV) among sheep, goats, and cattle in northern Uganda shall include these objectives:

a. Determine the prevalence of PPRV in wild animal species in the Kidepo Valley National Park and in goats, sheep, and cattle in Nakapiripirit district of Uganda.
b. Use of RT-PCR to detect the presence of PPRV and competitive ELISA to determine the presence of specific PPRV antibodies.
c. Development of a questionnaire to obtain data on existing control measures, livestock movement patterns, PPRV vaccination practices and prevalence, and other relevant epidemiological and surveillance factors.

For the pilot studies, an appropriate scope would include the following:

Study 1 - Pilot study will include no more than 1,000 serum samples collected from 768 domestic animals (cattle, sheep and goat) and 232 wild animal ruminant and porcine species. Laboratory analysis will be limited to serology (ELISA). Data analysis will include determination of RVF antibody seroprevalence. ELISA will be conducted at the CDC lab at UVRI with participation as appropriate by relevant project collaborators.

Study 2 - Pilot study will include no more than 1,000 serum samples collected from two distinct locations with measurably high levels of interface between the wild birds, domestic poultry, and humans. Samples should be collected from approximately 590 domestic poultry and 410 wild poultry, split evenly between both locations. Laboratory analysis will be limited to ELISA for Influenza A viruses and PCR-based molecular analyses, both to be conducted at NADDEC.

Study 3 - Pilot study will include no more than 1,000 serum samples collected each from two distinct locations. The samples should be from approximately 232 cattle and 768 sheep or goats split evenly between the two locations. Development and piloting a questionnaire to assess PPRV risk factors such as vaccination practices, livestock movement and PPRV control measures will be part of the study. Laboratory analysis will be limited to serological and molecular techniques and data analysis will include determination of PPRV antibody seroprevalence and risk factors for PPRV. ELISA and PPR will be conducted at NADDEC. Metabiota shall not pay for Ugandan government collaborators' time for activities completed as part of their normal job/position and role within their institution. Time shall not be paid to government collaborators for Phase One or Phase Two. Ugandan government collaborators can be compensated for time if they are included as trainers, pilot study project leads, and field technicians for Phase Three. AFENET is not a government organization. CDC will not be compensated for time related to this project. All other POCs listed above are Ugandan government collaborators.

Travel costs for Ugandan participants related to the training event and field studies should only include ground transport, lodging, and per diem costs for participants working a distance of greater than one hour travel time from their home, and any requested ground transport, lodging, or per diem payments shall be cleared with CBEP prior to making commitments to cover these costs. Local participants in the training and field work (living one hour or less from the location of their work that day) will not have travel, lodging, or per diem costs covered.

Phase Three deliverables: Pilot studies implemented: PCR and ELISA results provided to CBEP; results and analyses developed into a pilot project summary of conclusions per project and provided to CBEP; and summary of conclusions provided to the Ugandan national authorities for disease surveillance and control.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Phase 0: Proposal Development & Initiation (Task 1: March 7-9, 2016)

Metabiota developed a project plan and implementation strategy that aligns with narrative from Box 8. It is anticipated that the plan for TD-022 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as a Research and Data Analyst (RDA)) time to identify the optimal strategy, including required deliverables and other programmatic requirements, which may be a part of project implementation.

The Metabiota PM and PC coordinated with Dr. Mary Guttieri, Metabiota's Executive Vice President (EVP) in charge of Science Integration and communication with our regional scientific networks to identify the appropriate SMEs in grantsmanship, experimental design, and biosurveillance to develop and augment project work plans and training materials. Ultimately, this measure was taken to ensure our technical and cost solutions were of the highest quality and sustainable, respectively.

Key assumptions:

1. Metabiota received unofficial communication supporting an extension of its contract from May 16, 2016 to November 15, 2016, this technical response has been developed with the key assumption that this additional time will be allotted to this project.
2. Metabiota assumes DTRA CBEP representatives will provide Metabiota with the concept notes referred to in Box 8 upon the approval of this TD.
3. Metabiota assumes that DTRA CBEP representatives involved in the development of this technical direction will be available for a kick-off meeting to discuss any associated historical engagement with the research collaborators and their respective needs and constraints.
4. Metabiota assumes changes to the budget (e.g., labor categories) will be acceptable to DTRA. An RDA was added to provide flexibility when implementing; however, this has not affected the overall project budget.
5. Metabiota assumes our response should align with narrative from Box 8, which does not align with the figures provided in Box 5.
6. Metabiota assumes that there will be a need to develop training materials during phase 3 part 1 in preparation for phase 3 part 2, and has incorporated the necessary LOE into this technical proposal.
7. Metabiota recognizes guidelines regarding compensation of Ugandan government personnel, as outlined in the Ambassador's memo (8 April 2015). Metabiota has developed a basis of estimate that plans for the highest cost scenario (e.g., no Ugandan government personnel). Upon receiving names and affiliations of all project participants, Metabiota will work with DTRA CBEP to adjust the basis of estimate accordingly.

Phase 1: Work Plan Development (Task 1: March 21-April 22, 2016)

Upon approval of the TD, Metabiota will engage DTRA CBEP to ensure a mutual understanding of project goals and objectives is realized, as well as to obtain the concept notes referred to in Box 8. Metabiota will additionally engage with the eight Ugandan collaborators provided in Box 8 as well as other key stakeholders to obtain additional information such as possible existing work plans, research plans, and training materials for grantsmanship and standard operating procedures for related biosurveillance activities. The Metabiota PM, PC, and SMEs will participate in regular project communications with stakeholders to ensure mutual understanding of project goals, actions, and status.

Metabiota SMEs will conduct a review of the concept notes referred to in Box 8 to establish a baseline for outreach to the identified Ugandan stakeholders. Metabiota will then conduct a series of data calls with these Ugandan stakeholders in order for the SMEs familiarize themselves with the current capabilities and needs of the identified stakeholders, and to identify an appropriate path forward for the work plan. This work plan will identify a timeline of implementation and key milestones and goals for both the development of a detailed research plan (from which, Pilot training and design study will be extracted), as well as development of research proposals (ex. number of proposal submissions, drafts of white papers, etc.). The work plan will include activities providing grantsmanship support, mentorship, and subject matter expertise to key Ugandan stakeholders throughout proposal development, Pilot training and study design and verification, and proposal editing and submission process. Metabiota will submit the work plan draft(s) to DTRA CBEP for review and approval.

Phase 2: Research Plan and Proposal Development (Tasks 1, 4: April 25-June 24, 2016)

Metabiota SMEs will execute the work plan as approved by DTRA CBEP in Phase 1. In doing so, Metabiota will coordinate with the identified Ugandan stakeholders to support the development of a detailed research plan as well as research proposals for epidemiologic studies/bio-surveillance research of RVF, AI, and PPR based on the needs and research interests identified in Phase 1.

Metabiota SMEs will provide support to the Ugandan stakeholders to develop a comprehensive research plan, which will include a detailed list of materials and supplies needed to accomplish the research studies. Moreover, the research plan will include detailed SOPs planned for the collection of samples, including field, laboratory, and data analytics as well as identification of biosafety and biosecurity risks and associated mitigation methods. From this overarching research plan, the Metabiota SMEs and Ugandan stakeholders will develop up to three (3) pilot study plans to test the SOPs developed in the research proposals for their effectiveness and viability of project design. In doing so, the Metabiota SMEs will provide support, mentorship, and expertise in the development, strengthening, and tailoring of these research plans through the submission proves while the Ugandan stakeholders are expected to write and finalize these plans based on the guidance they are provided. Metabiota will submit the final research plan(s), research proposals (including financials) and proposed SOPs for DTRA CBEP's review and approval.

Phase 3, Part 1: Preparation and Coordination for In-country Training and Pilot Studies (Tasks 1, 3, 4: March 28-Aug 11, 2016)

Metabiota will coordinate with the Ugandan stakeholders to identify the most appropriate participants for both training and Pilot study activities. The Metabiota Travel Coordinator will coordinate with the project team to ensure that transportation and lodging arrangements are secured for the SMEs and FLNs as needed. The Metabiota PM and PC will work with the project teams to ensure any need for translation, interpretation, or other logistical requirements are adequately anticipated and communicated to CLS via the DTRA CBEP Technical Point of Contact.

Metabiota will coordinate with the Ugandan Stakeholders to identify training needs as discussed in Phase 1 and further identified in Phase 2 SOP development. To meet these needs, Metabiota will reuse existing training materials and SOPs for applicable biosurveillance activities as much as possible. However, due to the limited information currently available regarding the intended pilot research plans, Metabiota expects to use SMEs to adapt and develop training materials for effective delivery of training. Metabiota SMEs will develop new materials, which may including slide presentations, videos, etc. to effectively leverage the learning environment. Metabiota will also develop, as appropriate, pre-tests and post-tests for monitoring and evaluation purposes. Training materials, after development and adaptation, will be delivered to DTRA CBEP for technical review and Public Affairs Office approval.

Phase 3, Part 2: Conduction of In-country Training (Task 1, 3, 4: August 4-24, 2016)
Metabiota SMEs will execute a 10-day training activity for up to 20 participants who will be taking part in the three identified pilot studies followed by a 1-day pilot study coordination day with the pilot study leads. Metabiota anticipates a mix of lecture and hands-on training being necessary, however, Metabiota SMEs will adjust the training approach based on the Stakeholder feedback obtained in Phase 1. Metabiota SMEs will be available for virtual "office hours" and to answer written communications from participants as needed throughout the conduction of pilot studies. Metabiota SMEs will also conduct pre-/post- training testing and evaluations and provide feedback to the participants on their performance. FLNs will be used to facilitate training activities to the extent possible.

Phase 3 Part 3: Conduction of Pilot Studies (Task 1, 4, 6: August 18-Oct 26, 2016)
Metabiota SMEs will coordinate with the pilot study leads for the conduction of three pilot field studies, involving up to three pilot study leads and 11 technicians over a period of 8 weeks. Metabiota SMEs will be available for virtual "office hours" and to answer written communications from all participants as needed throughout the conduction of the pilot studies. Metabiota will provide management oversight and support for the conduction of these pilot studies, and will support the Ugandan collaborators in obtaining all required approvals for project continuation, including but not limited to ROB approvals. Metabiota will coordinate with all Stakeholders to identify the necessary materials required to conduct all pilot effort(s). Inclusive of this, Metabiota will provide any necessary support (SME or logistical) to in-country participants when navigating the procurement process. All materials will be identified and procured with sustainment in mind. Metabiota will submit pilot study summaries, including individual pilot study results, analyses, and conclusions as well as a summary of implementation conclusions to DTRA CBEP for communication to the Ugandan national authorities for disease surveillance and control

Final Project Report
Metabiota PM, PC, and SMEs will all contribute inputs to a final report relaying all actions taken for project implementation through all phases, lessons learned, and identifying next step opportunities upon completion of all deliverables. Results of pre- and post- testing and evaluations from training will also be provided to DTRA CBEP.

Monitoring and Evaluation
In order to develop a comprehensive approach to continuous monitoring and evaluation of this project throughout implementation, Metabiota has developed a comprehensive monitoring and evaluation plan which can be found in the attached Appendix A (Supplemental Information) Part 5.

Risk Management:
In order to anticipate and overcome obstacles included (but not limited to) those listed in Risk Management Matrix found in the attached Supplemental Information Part 2, Metabiota has identified and captured the risks associated with implementing this activity, including contingency planning and course correction measures which will lead to overall regional risk reduction, as outlined in the attached Risk Management Matrix.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

LABOR	$111,755.22
MATERIALS	$105,270.00
ODCs	$3,679.55
TRAVEL	$32,930.50
	$253,635.27

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES).

All phases:
Task 1 - Project Coordination: Metabiota will provide consistent and cohesive technical and administrative leadership, direction, program management, implementation oversight, and coordination of all project activities.

Metabiota Program Manager (PM) The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of DTRA CBEP goals at the country and regional level in direct support of this activity and the DTRA CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the RDA to ensure all day-to-day activities for the project are completed on time, and to the quality required by DTRA CBEP.

Metabiota Project Coordinator: The Metabiota RDA will act as a Project Coordinator (PC) throughout the planning and execution of project objectives. The PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will manage the SMEs and FLNs and lead coordination with the Ugandan Stakeholders, to include leading regular coordination calls with the project team and assist in participant coordination.

Note* - Metabiota recognizes that the RDA labor category was not included to Box 8 of this TD. Upon review of internal support (e.g., Project Coordinators) and to allow greater project implantation flexibility, Metabiota has proposed the use of an RDA instead of a SME 1 for all project coordination. Importantly, while hours have been added for project coordination, the overall cost for the Project Coordinator role remains unchanged between RDA and SME 1.

A key requirement to ensure effective program initiation, execution, and closeout is ensuring clear communication between all project stakeholders. To ensure the project in managed according to CBEP standards, the PM and PC will be responsible for the following:

Initiation and Program Integration: The PM, with PC support, developed the project proposal to include the project timeline, identification and integration of project requirements, deliverables, subcontractors, SMEs, and trainers to ensure project success. Upon acceptance of the proposal, the

PM will hold a kick-off meeting with team members and partners to review the project plan and schedule, establish routine communication to support project implementation, initiate education on the contract requirements, and begin project implementation. Routine communication with all stakeholders will ensure that all deliverables, including required CDRLs, are met and submitted according to the project schedule and contract requirements.

The PM and PC will work closely with Ugandan POC's identified in Box 8 (Phase 1) to understand their respective vision for this effort, including the development of a work plan for implementing all identified activities. In addition, the PM and PC will coordinate communication between Ugandan POC's and the identified grantsmanship/BSV SME's (e.g., project team members) to ensure alignment of project plans with DTRA CBEP goals when developing the research project design and high-quality and competitive research proposal(s) (Phase 2). Lastly, the PM and PC will coordinate all aspects of training implementation (Phase 3), to include identification and appropriate engagement of FLNs, to include a Study Leads and Study Technicians, to support in-country training and BSV pilot studies (Phase 3) by interfacing regularly (see Communication Management) with project personnel to ensure that in-country and overall project objectives and requirements are met in full. The PM will ensure that FLNs are engaged according to contract and project requirements, and have the experience, background, and skills necessary to support training implementation. FLNs are budgeted at the AFRICOM FLN I rate.

The PM will ensure that all project personnel (Metabiota and subcontractors) adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include; overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work.

Project Close out: The Metabiota PM and PC will oversee project closeout, to include completion of grant proposals, wrap-up of training, and finalization and submission of all identified deliverables, including final reports. The PM will also ensure the conclusion of subcontracts and other employment agreements.

Additional communication strategies and programmatic safeguards, including 1) Human Resources Management, 2) Communications Management, 3) Risk Management, 4) Schedule Management, 5) Cost Management, 6) Quality Management, and 7) Technical Resource Management can be found in Appendix A (Supplemental Information).

Task 3 – Qualified Trainers (QT): Metabiota will provide financial support to in-country Qualified Trainers (Phase Three, Parts One and Two) via subcontracts of independent consultant agreements with the yet to be identified trainers. Metabiota recognizes the importance of identifying Ugandan nationals to fill these roles in order to foster relationships and build regional capacity. Metabiota will work with all project stakeholders to identify the appropriate trainers. Currently, it is presumed that all qualified trainers will be billed at the AFRICOM FLN 1 rate.

Task 4 - Subject Matter Experts (SMEs): Metabiota will provide ongoing technical support and expertise through the use of SMEs, to include the development of 1) a work plan for implementing all identified activities, 2) project design, and 3) development of high-quality and competitive research proposal(s). Metabiota SMEs engaged for this effort will provide expertise and input on the development and revision of existing training materials, development and revision of SOPs, as well as mentoring of study participants in grantsmanship and BSV training activities. SMEs will predominately operate remotely throughout Phases 1, 2, and most of Phase 3 and will thus provide mentorship through regular written communication and video teleconferencing with project participants, as necessary. Importantly, the SMEs for this effort are Kenyan nationals and geographically situated in Nairobi, Kenya which will ease operating delays due to time zone differences. Moreover, the identified SMEs possess excellent operational knowledge of East Africa and capabilities in technical writing, biosurveillance techniques, and one health concepts related to infectious disease research. For Phase Three, Part Two, SMEs will implement the training efforts and will work in partnership with FLN project participants to administer the courses, provide QA/QC of all materials, engage trainees in capacity building and scientific discussions supporting training concepts and implementation, and assist in the development of a gap analysis report. SMEs on this effort will be performing the functions of both SMEs and Qualified Trainers (QTs). In line with government guidance, the SMEs will be billing at the SME I labor rate, which is the equivalent cost of QT I.

Metabiota will subcontract Africa Biomedical Laboratories (ABL, Nairobi, Kenya) for SME support of this effort. The use of regionally accessible, African Nationals helps to build regional capabilities and networks, and ensures overall project success.

Task 6 – Research Activity Projects: Metabiota will provide financial support to Study Leads and Study Technicians (Phase Three, Part Three) via subcontracts of independent consultant agreements with the yet to be identified participants. Metabiota will work with all project stakeholders to identify the appropriate project participants. It is currently presumed that all project participants will be billed at the AFRICOM FLN 1 rate.

Note* - Metabiota is aware of guidance provided by the US Ambassador to Uganda regarding salary support to Government of Uganda personnel. If the Trainers, Study Leads, or Study Technicians are direct employees of the Ugandan Government (e.g., Ministry of Health, Agriculture, Wildlife, etc.), Metabiota will adjust their engagement strategy to reflect the Ambassadors guidelines. The budget for this project will be impacted accordingly.

Reach back programmatic support to include finance, accounting, and contracts, will be provided as part of CLIN 1001 (FFP) and will not be separately invoiced.

Materials

As defined in Box 8 (Phase Three, Part Three) this activity shall include the procurement of materials and supplies required for the pilot studies, not to exceed $100,000. Metabiota will work with the Ugandan partners to identify the most sustainable, efficient, cost-effective way to procure materials and supplies for executing BSV pilot studies. The identification of sustainable supplies will be critical for continuing BSV-related activities, which will be described in greater detail within newly developed grant proposals (Phase Two). Any materials procured by Metabiota will be shipped via CLS. If materials can be secured and provided to the trainers/trainees locally or online, shipping will not be required. Additionally, Metabiota will work with SMEs based in Kenya to help identify sustainable and reliable vendors of biomedical supplies.

Given the nature of this effort (e.g., BSV), Metabiota anticipates the need to procure personal protective equipment such as Tyvek suits, gloves, goggles, booties, and N95 respirators, as well as consumables and other paraphernalia such as chlorine, plastic wash basins, buckets, disinfectant sprayers, and anti-fog spray will also be procured. A final list of materials required for this effort will be identified in coordination with all project stakeholders.

Following discussions with all project stakeholders, and if warranted, USB internet devices and internet access cards will be procured and provided to project participants in-country to ensure they have access to a stable internet connection during remote coordination and training sessions, which are included to all phases of this effort. USB internet devices will be procured and tested in-country to avoid shipping charges and to ensure they are

operational on the ground. USB internet devices and access cards will be monitored by the FLNs to ensure they are used for project purposes only, and are maintained according to equipment/material guidelines for the duration of the course.

General office supplies will be procured to support in-country training activities and routine project needs for the execution of the training courses. Office supplies will be procured locally and will include, but may not be limited to, pens, paper, thumb drives, binders, etc.

Metabiota will conduct market research and ensure the best value is secured, maintaining quality and technical requirements for all procurement of goods. Metabiota will coordinate directly with CLS and third-country vendors for all necessary shipping requirements, and will work closely with CLS and DTRO to ensure customs clearance requirements are met and goods delivered according to project timelines and CDRL requirements. Metabiota will ensure cost management for all procured supplies and will coordinate directly with CBEP and CLS to support additional requirements for the hands-on training events to include such items as printing of the developed and adapted training materials, training certificates for participants, and translation services, if needed.

Other Direct Costs

Per contract guidelines, DBA insurance is required for all personnel engaged on the AEP project working abroad. DBA insurance will be applied for labor costs incurred overseas. DBA will be applied to the PM, SMEs/Trainers, FLNs, and other contractors, engaged on this effort, for the duration of the program. Metabiota maintains a blanket DBA policy for all personnel and will add the SMEs and FLNs, and other performers meeting DBA requirements, to this policy as they are engaged. A rate of (b)(6) of their total compensation will be billed to the project on a monthly basis. A reconciliation of the total DBA will be performed prior to final invoicing to ensure accuracy of the charges, in accordance with total hours worked. Final invoicing will be adjusted, if necessary, to reflect the final DBA allocation numbers.

Subcontracts

Subcontracts will be issued to SMEs, FLNs, and/or their home organization(s) as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the labor or materials budgets.

Travel

Travel is requested to support the Program Manager, SME, and qualified Ugandan trainers to Kampala, Uganda to implement training efforts for project participants (Phase Three, Part Two). The travel budget represents the estimated amount required. Travel on the AEP contract is cost reimbursable.

All Metabiota personnel slated to travel are current with regard to ISOPREP, SERE, and AT/FP trainings, as required by CBEP. Additionally, the SME's leveraged for this effort are Kenyan Nationals and therefore do not require the aforementioned travel trainings/documents.

Our travel budget assumes training will be held in Kampala over the course of two weeks, including one day before or after for in-person coordination, as described in Phase Three, Part Two of this proposal. If, through discussion with the Ugandan stakeholders, an alternative schedule is created or an alterative location is desired, travel costs may be impacted accordingly.

10. FUNDING AUTHORIZED THIS TD:

CLIN	COST CODE		COST	POP START	POP END
1002	LABOR	$	111,755.22		
1003	MATERIALS	$	105,270.00		
1004	ODCs	$	3,679.55		
1005	TRAVEL	$	32,930.50		
	TOTAL	**$**	**253,635.27**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ 253,635.27

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ 253,635.27

12a. CURRENT PERIOD OF PERFORMANCE

21-Mar-2016 – 15-May-2016

12b. TD REV PERIOD OF PERFORMANCE

21-Mar-2016 – 15-May-2016

13. CONTRACTOR SIGNATURE AND DATE

(b)(6)

Signature

Date: 31 March 2016

14. REGION

AFRICOM/ Uganda

15. TECHNICAL POINTS OF CONTACT

AFRICOM Science Manager (b)(6)

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

(b)(6)

X

(b)(6)

COR/ J3CTB Program Manager

Instructions:

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact Details
8. Description of the Technical Directive Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution for TD. Limit to __ pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Limit to __ pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cumulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Contracting Officer Approval: Sign & Date
16. Contracting Officer Representative Approval: Sign & Date

>
>
>----
>
>Dear (b)(6)
>
>Please find our response to your questions/comments below:
>
>1. Under Key Assumption 7: It assumes the participants engaged are not Ugandan government officials, and therefore fall outside of the U.S. Ambassador's memo (8 April 2015) outlining compensation of Ugandan Government personnel. However, many of the partners involved in the project are part of the UG government and will have to follow the US Ambassador's memo guidelines. In the risk management chart (page 3), the issue is addressed by stating Metabiota will work with the regional partners to ensure that we follow the memo's guidelines and will communicate this to the participants. It is our understanding that if the training or the sampling is outside the home district of the UG government employee, they can receive a stipend (maximum of 140k shillings).
>
>Metabiota: Narrative for Assumption 7 has been changed to the following: "Metabiota recognizes guidelines regarding compensation of Ugandan government personnel, as outlined in the Ambassador's memo (8 April 2015). Metabiota has developed a basis of estimate that plans for the highest cost scenario (e.g., no Ugandan government personnel). Upon receiving names and affiliations of all project participants, Metabiota will work with DTRA CBEP to adjust the basis of estimate accordingly."
>
>
>2. Clarification needed on the role of (b)(6) as technical resources and SMEs. Task 3 indicates that qualified Ugandan partners will be utilized, but the supplemental information contains the CVs of Kenyan partners. Is there a reason why Ugandan collaborators are not being utilized in the training?
>
>Metabiota: Box 8, Phase Two suggests that Metabiota would provide up to 3 SMEs, including 1-2 from Metabiota and one Ugandan non-governmental SME (I.e. AFENET). (b)(6) have extensive regional experience, including efforts in Uganda, in veterinary sciences, surveillance, and diagnostics, making them ideal MetabiotaSMEs.
>
>Box 8, Phase Three suggests Metabiota engage no more than five medium-level trainers, preferably from Uganda, to assist in pilot studies. Further, that the trainers may be a mix of Metabiota and Ugandan trainers. Metabiota has every intention to identify and use four medium-level trainers from Uganda. However, for the sake of consistency in integration, as well as technical expertise, we felt it would be helpful if one of the SME's from Task 2, also supported efforts for Task 3.
>
>
>3. Clarification also needed on the role of (b)(6) With the identification of (b)(6) as regional SMEs, it is unclear what role (b)(6) ll play in identifying SMEs.
>
>Metabiota: As part of our internal management strategy (b)(6) leads scientific integration across all programs and communication with our regional scientific networks, which includes Africa Biomedical Laboratories ((b)(6) . Within AEP, upon receiving a new TD, we engage leadership, including (b)(6) to identify appropriate scientific personnel. In this instance, (b)(6) was engaged upon receipt of the TD and ABL was identified as the most appropriate SME's for this effort. In light of this, the narrative should have been written in past tense. Importantly (b)(6) time is not billed to AEP.
>
>Additionally, I have attached updated narrative to Box 9 of our TD-022 response. All adjusted narrative has been highlighted yellow.
>
>If you have any additional questions, please let me know if you have any additional questions.
>
>Kind regards,
(b)(6)
>

>
>
>
>
>
>
>On 3/16/16, 1:51 PM, "(b)(6) ol USAF DTRA J3-7 (US)"
(b)(6) rote:
>
>>Brad,
>>There are some comments/questions regarding one of the key assumptions and clarifications on the SME support:
>>
>>1. Under Key Assumption 7: It assumes the participants engaged are not Ugandan government officials, and therefore fall outside of the U.S. Ambassador's memo (8 April 2015) outlining compensation of Ugandan Government personnel. However, many of the partners involved in the project are part of the UG government and will have to follow the US Ambassador's memo guidelines. In the risk management chart (page 3), the issue is addressed by stating Metabiota will work with the regional partners to ensure that we follow the memo's guidelines and will communicate this to the participants. It is our understanding that if the training or the sampling is outside the home district of the UG government employee, they can receive a stipend (maximum of 140k shillings).
>>
>>2. Clarification needed on the role of (b)(6) as technical resources and SMEs. Task 3 indicates that qualified Ugandan partners will be utilized, but the supplemental information contains the CVs of Kenyan partners. Is there a reason why Ugandan collaborators are not being u ed in the training?
>>
>>3. Clarification also needed on the role of (b)(6) With the identification o (b)(6) as regional SMEs, it is unclear what role (b)(6) m play in identifying SMEs.
>>
>>Please advise if/how these impact Metabiota's proposed approach.
>>
>>Thanks,
>>
>>(b)(6) , Lt Col, USAF
>>Program Manager, Academic Engagement Partnership (AEP) Program
>>J3CTB/Cooperative Biological Engagement Program
>>8725 John J. Kingman Rd
>>Ft Belvoir, VA 22060
>>W: (b)(6)
>>Ema
>>
>>
>>
>>
>>-----Original Message-----
>>From: (b)(6)
>>Sent:
>>To:
>>Cc:
(US);
>>Subject: [Non-DoD Source] Re: TD-022: Uganda BSV & Grantsmanship Training
>>
>>Dear (b)(6)
>>
>>Please find attached, our response to TD-022. Of note, I have included an unsigned Word document, due to the embedded budget, as well as a signed PDF version.
>>

>>We look forward to any feedback you may have regarding this submission.
>>
>>Best regards,
>[redacted]
>
>
>>Deputy Program Director - AEP
>>Metabiota, Inc.
>>email:[redacted]
>>Mobil
>>Skype
>>
>>CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.
>>
>>
>>
>>
>>
>>
>>
>>
>>
>>
>>On 3/7/16, 3:52 PM,[redacted]A J3-7 (US)"
[redacted]rote:

>>>Please find attached, TD-022 for grantsmanship training and SME assistance for coordination of project design, research proposal development and implementation of a pilot biosurveillance study in Uganda. Response to TD is requested by COB 09 March 2016, for a PoP start of 21 March 2016.
>>>
>>>Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also Cc'd), if you have any technical questions.
>>>
>>>Thanks,
>>[redacted]
>>
>>>Program Manager, Academic Engagement Partnership (AEP) Program
>>>J3CTB/Cooperative Biological Engagement Program
>>>8725 John J. Kingman Rd
>>>Ft Belvoir, VA 22060
>>>W[redacted]
>>>E
>>>
>>>
>>>
>>>

From: (b)(6)
To:
Cc:

Subject: TD-024 Rev B: CENTCOM Film Narrative
Date: Monday, June 06, 2016 6:46:06 PM
Attachments: Draft_CTR-AEP-CBEP_TD-024RevB_CENTCOM Film Narrative_6Jun2016.docx

(b)(6)

Please find attached, TD-024 Rev B extending the Period of Performance (PoP) from 30 June 2016 to 31 July 2016 and adding closed caption features to the film narrative video.

Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also Cc'd), if you have any technical questions.

Thanks,

(b)(6)
Program Manager, Academic Engagement Partnership (AEP) Program
J3CTB/Cooperative Biological Engagement Program
8725 John J. Kingman Rd
Ft Belvoir, VA 22060
W:
Em (b)(6)

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	024	B

4. TD TITLE
Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East and South Asia

5. TOTAL TD ESTIMATE.
HOURS. _____ DOLLARS: $ **$2,000**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: (b)(6)
PHONE: (b)(6)

7. CONTRACTOR POC
NAME (b)(6)
PHONE EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

This revision extends the Period of Performance (PoP) for TD-024 from 30 June 2016 to 31 July 2016. This PoP extension is to provide enough time to continue developing a Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East, South Asia and CBEP collaborations in the CENTCOM Region and route through DTRA PAO office. In addition, contractor shall add closed caption features to the film narrative and all subsequent copies via various media types develop under this TD not to exceed $2,000. Metabiota should coordinate directly with the Technical POCs identified below. No additional changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		$0.00

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES).

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV.
$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ **$0**

12a. CURRENT PERIOD OF PERFORMANCE
15-MAY-2016 – 30-JUN-2016

12b. TD REV PERIOD OF PERFORMANCE
15-MAY-2016 – 31-JUL-2016

13. CONTRACTOR SIGNATURE AND DATE
Signature:
Date _____

14. REGION
CENTCOM/ Regional

15. TECHNICAL POINTS OF CONTACT
(b)(6) CENTCOM Science Lead
(b)(6) CENTCOM Regional Lead
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X
Lt C (b)(6)
COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

From: (b)(6)
To:
Cc:

Subject: TD-024: CENTCOM Film Narrative
Date: Friday, April 15, 2016 2:00:53 PM
Attachments: Draft_CTR-CBEP_AEP_TD-024_CENTCOM Film Narrative_15Apr2016.docx

(b)(6)

Please find attached, TD-024 for the creation of a film narrative on the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases. Response to the TD is requested by COB 19 April 2016, for a PoP start of 1 May 2016.

Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also Cc'd), if you have any technical questions.

Thanks,

(b)(6)
t Col, USAF
Program Manager, Academic Engagement Partnership (AEP)
Program
J3CTB/Cooperative Biological Engagement Program
8725 John J. Kingman Rd
Ft Belvoir, VA 22060
W (b)(6)
E

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	24	

4. TD TITLE	5. TOTAL TD ESTIMATE.
Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East and South Asia.	HOURS. (b)(6) DOLLARS: $ **$60,000**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: LT COL (b)(6)	NAME: (b)(6)
PHONE (b)(6) EMAIL: (b)(6)	PHONE: EMAIL (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE).

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to develop a Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East, South Asia and CBEP collaborations in the CENTOM Region in accordance with SOW section 4.3, Task 3.

Metabiota shall develop a 2-5 minute film narrative of the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, which was held at the Royal Scientific Society (RSS) on March 7-8, 2016 in Amman, Jordan. The visual narrative (2-5 minutes) objectives are to document the Jordan conference and describe other science initiatives and the outcomes of CBEP's engagements in the Middle East and South Asia. Metabiota shall develop the specific script in coordination with CBEP CENTCOM regional managers. The footage and interviews that Metabiota has from the conference can be utilized for the visual narrative. The visual narrative should be completed by June 30 2016. Total costs for the narrative shall not exceed $60,000.

Deliverables:

- A short film narrative of 2-5 minutes on 3 DVDs. Final film must go through Public Affairs Office (PAO) approval at DTRA.

The period of performance for this effort will be from May 1 to June 30 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $60,000.00 is requested by 19 April. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		$0.00

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES).

10. FUNDING AUTHORIZED THIS TD REV.

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:	12a. CURRENT PERIOD OF PERFORMANCE	13. CONTRACTOR SIGNATURE AND DATE
$ **$0**	**01-May-2016 – 15-May-2016**	Signature:
11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV: $ **$0**	12b. TD REV PERIOD OF PERFORMANCE **01-May-2016 – 15-May-2016**	Date:

14. REGION	15. TECHNICAL POINTS OF CONTACT	16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
CENTCOM/ Regional	(b)(6) CENTCOM Science Lead (b)(6) – CENTCOM Regional Lead (b)(6)	X Lt C(b)(6) COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	24	

4. TD TITLE	5. TOTAL TD ESTIMATE:
Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East and South Asia.	HOURS. (b)(6) DOLLARS: $ **$60,000**

6. CONTRACTING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: LT (b)(6)	NAME. (b)(6)
PHONE (b)(6) EMAIL (b)(6)	PHONE. EMAIL. (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE).

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to develop a Film Narrative of Epigenetics and Genomics of Infectious Diseases in the Middle East, South Asia and CBEP collaborations in the CENTOM Region in accordance with SOW section 4.3, Task 3.

Metabiota shall develop a 2-5-minute film narrative of the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, which was held at the Royal Scientific Society (RSS) on March 7-8, 2016 in Amman, Jordan. The visual narrative (2-5 minutes) objectives are to document the Jordan conference and describe other science initiatives and the outcomes of CBEP's engagements in the Middle East and South Asia. Metabiota shall develop the specific script in coordination with CBEP CENTCOM regional managers. The footage and interviews that Metabiota has from the conference can be utilized for the visual narrative. The visual narrative should be completed by June 30 2016. Total costs for the narrative shall not exceed $60,000.

Deliverables:

- A short film narrative of 2-5 minutes on 3 DVDs. Final film must go through Public Affairs Office (PAO) approval at DTRA.

The period of performance for this effort will be from May 1 to June 30 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $60,000.00 is requested by 19 April. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Phase 1: Proposal Development & Initiation (Task 1)

Metabiota developed a project plan and implementation strategy that aligns with the narrative from Box 8. It is anticipated that the plan for TD-24 is considered a living document, and it is expected that revisions to the plan may be necessary following stakeholder meetings. During proposal development, Metabiota will use Program Manager (PM) and Project Coordinator (PC, billed as a Subject Matter Expert 1) time to identify the best path forward, required deliverables, and any other programmatic requirements which can reasonably be expected to be a part of this project.

Metabiota assumes the following:

1. The PoP assigned to this project will allow enough time for PAO approval of the final video. However, if PAO approval extends beyond the project timeframe, Metabiota will work with AEP regional leadership and the COR to adjust the PoP or allow for final approval of the video outside of the project timeframe, as appropriate and within contractual compliance;
2. Production services required for this project will be complete within 3 weeks allowing enough time for PAO approval of the final video. Should services required extend past this timeframe, Metabiota will work with the CBEP CENTCOM regional leads (and COR, if necessary) to adjust the schedule accordingly;
3. Box 8 of TD-24 states that this project will be completed in accordance with section 4.3, Task 3, which refers to Qualified Trainers (QTs). Based on the requirements, Metabiota has replaced Qualified Trainers with Task 4- Subject Matter Experts. Metabiota assumes this will be acceptable in the execution of the project and engagement of SMEs for this effort.

Project Coordination (Task 1)

The Project team will be led by an experienced Program Manager (PM), Carlyle Gollogly, and supported by a highly effective Project Coordinator (PC), Emily Varanay, MPA, to cover Task 1 – Project Coordination. The PM and PC were selected for this project, because they implemented TD-07 the Middle East South Asia Epigenetics and Genomics of Infectious Disease Conference and have the historical knowledge to effectively and efficiently manage the requirements identified for TD-24. In addition, Metabiota will engage Dr. Kavita Berger, PhD, from Gryphon Scientific LLC to assist in narrative development as a SME under Task 4. Dr. Berger was the PI and senior technical implementer on TD-07, working closely with Ms. Gollogly and Ms. Varanay.

Note: The Metabiota PM confirms subcontractor knowledge of the contractual requirements prior to TD approval

Phase 2: Preparation (Task 1)

Upon TD approval, the PM will establish routine communications with project team members and CBEP to initiate project implementation. The PM will hold a kick-off meeting within 5 days of approval, with participation from the AEP PMO, project team members and key CBEP stakeholders to review project requirements and ensure a mutual understanding of project goals and objectives is realized. The PM and PC will review the project communications plan, schedule, risk register and other items critical to support project implementation during the kickoff. The PM, with assistance from the PC, will identify and engage the videography firm required to execute production of the video. The PM will lead coordination and integration of the project team with CBEP stakeholders to develop the narrative and complete the film.

The project team will ensure that all necessary documentation required prior to initiating tasks is completed correctly and submitted on time, including CTR CLS Form (CDRL A016) and the Monthly Reports (CDRL A001). The project team will work closely with CBEP regional leads, A&AS support

staff, and CLS to ensure that all logistics requirements are coordinated and implemented according to the project schedule and contractual requirements. The Metabiota Travel Coordinator will coordinate with the project team to assist in the request of travel requirements supporting this effort and will ensure that travel arrangements are secured, immediately following approval by the COR, and in line with the project schedule and execution requirements.

Sub-Phase 2.1: Film Narrative Development and Adaptation (Tasks 1.4)

Metabiota will select and engage a videography firm to produce the film, following sourcing of an appropriate vendor for this engagement. The project team will engage the CBEP regional leads to ensure the technical requirements are clearly determined and will select a service provider at best cost to the government, meeting the requirements identified. Upon engagement of the videography firm, Metabiota will transfer the existing, unedited video footage and interviews collected during the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, held at the Royal Scientific Society (RSS) from 7-8 March 2016 to the firm in order to produce the film. The unedited video footage, interviews, and photographs captured during this event will provide the raw material to effectively and relevantly document the Jordan conference and describe other science initiatives and the outcomes of CBEP's engagements in the Middle East and South Asia. The Metabiota team will work directly with CBEP regional leads and the videography firm to determine the narrative and produce the film.

Sub-Phase 2.2: Coordination for Material Shipment (Task 1)

Shipment of materials and final edited film, if deemed necessary, will be handled via CLS. The project team will deliver the final edited and PAO approved film utilizing the appropriate CLS forms (CDRL A0016 and associated forms) to the CBEP team for appropriate routing, adhering to contract timelines and deliverable schedule. The Metabiota team will work closely with CBEP, A&AS, and CLS staff members to coordinate and execute any logistical requirements, as needed.

Phase 3. Implementation (Tasks 1.4)

The Metabiota Project Team will develop and create a 2-5 minute film narrative of the Middle East and South Asia Conference on Epigenetics and Genomics of Infectious Diseases, held at the Royal Scientific Society (RSS) on March 7-8, 2016 in Amman, Jordan. The film will be produced in the English language and may include visual frames of speakers on stage, panning of audience, and snapshots of the discussion panels, poster session, and participants asking questions and engaging with speakers. The film may also include short interviews with conference organizers, Scientific Advisory Board members, speakers, presenters, and attendees concerning the importance, relevancy, and benefits of the conference, among other topics. The film will be produced utilizing the technical expertise of the film editors, Metabiota team, and CBEP regional leads to showcase the conference and highlight the scientific initiatives and engagements stemming from this event and CBEP efforts in the region. Suitable background music will be included, as well as sub-titles, if deemed necessary. Metabiota will ensure that the film is adjusted/edited according to guidelines received from CBEP, and other key stakeholders. CLS will be engaged to provide logistical support (CDRL A0016), should it be required for this effort. In addition, Metabiota will ensure PAO approval of the film, and will coordinate with the technical team to address any necessary changes prior to completion and final delivery of the product.

To support implementation efforts, the Metabiota PM will travel to Washington DC for meetings with CBEP regional leads and the project team to develop the narrative and review the video footage. The PM will participate in working sessions, brainstorming, and technical development of the film narrative during scheduled in person meetings to ensure execution of the narrative and completion of the project. In addition, the PM will meet with the videography firm to review performance and completion of tasks associated with this project.

Phase 4: Project Closeout (Task 1)

The project team will close out all activities associated with this project, to include final reporting, invoicing, and submission of all relevant CDRLs according to the outlined schedule. In addition, the project team will contribute to lessons learned conversations with CBEP detailing enhancements that could be made should this type of project be repeated, as necessary and requested by CBEP regional leads. Finally, unedited and edited film, and other relevant materials will be provided to CBEP.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$38,933
1003	MATERIALS	$10,695
1004	ODCs	$0
1005	TRAVEL	$2,993
TOTAL		**$52,620.93**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES,.

Labor

Costs for direct labor to support this activity is required for the following personnel:

Metabiota Program Manager (PM): The Metabiota PM will provide direct oversight of the planning and execution of the program, ensuring all objectives are met in accordance with the project SOW maintaining scope, budget, and timeline. The PM will ensure completion of CBEP goals in direct support of this activity and the CBEP mission throughout the lifecycle of the project, and will ensure project close out. To guarantee that all requirements are met, the PM will manage the SME 1 to ensure day-to-day activities for the project are completed on time, and to the quality required by CBEP. The PM will participate in routine conference calls and other forms of communication with CBEP regional leads and SMEs to ensure project execution. The PM will oversee the subcontractors on this effort, to include the services provided by the videography company in execution of the film. The PM will ensure all contract CDRLs are met and delivered according to the project timeline, and contract requirements.
LOE: 80 hours

Metabiota Project Coordinator: A SME 1 will act as a Project Coordinator (PC) throughout the planning, execution and close out of project objectives and activities. The PC will support the planning and execution of CBEP objectives towards the completion of project goals by participating in proposal development, stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating project risks and recommended mitigation strategies to CBEP and other stakeholders. The PC will regularly communicate the project status with the PM. The PC will participate in routine project communications, to include leading regular coordination calls with the project team, CBEP, the videography company, and other key stakeholders.
LOE: 60 hours

SME 3 (b)(6) from Gryphon Scientific will be engaged to support technical development of the film narrative for this project. Having coordinated the MESA Epigenetics and Genomics of Infectious Diseases Conference with the Metabiota team, she is critical in ensuring the conference message is received and communicated through the film. (b)(6) will work directly with Metabiota and CBEP to develop the narrative, review the footage, and provide subject matter expertise to the team and the production services in development and execution of the film. Should

edits or revisions be required following CBEP and PAO guidelines (b)(6) will participate in editing and refining the narrative to be delivered in the final product (b)(6) will be responsible for all monthly reporting and deliverables assigned to the Gryphon subcontract by Metabiota in execution of this project.
LOE: 80 hours

Reachback programmatic support to include finance, accounting, and contracts, will be provided as part of CLIN 1001 (FFP) and will not be separately invoiced.

Materials
Training Materials: Two (2) external hard drives will be procured to store the photos, raw video footage, and the final edited video.

Production Services: Metabiota will engage a videography firm to produce the short video for this effort. This will include identification of sound bites, completion of film transcripts, editing, and production of the video.

Metabiota will conduct market research and ensure the best price is secured, maintaining quality and technical requirements for all procurement of goods. Metabiota will coordinate directly with CLS for all shipping requirements, and will ensure cost management for all procured supplies, as necessary to complete the scope of this effort.

Subcontracts
The subcontract with Gryphon Scientific will be modified to include labor hours and materials required for implementation of this project. Costs are captured under the labor and materials budgets.

Travel
Travel costs will be cost reimbursable and provide best cost to the government following JTR regulations. Travel is requested for the PM to meet with the project team, Gryphon SME, CBEP, the videography company, and other key stakeholders to support the execution of Phase 3, and ensure development of the film narrative and completion of the project. The PM will travel to Washington DC to take part in in person meetings, brainstorming activities, narrative development and review of film footage and sound bites developed by the videography company supporting this project.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:
$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:
$ $0

12a. CURRENT PERIOD OF PERFORMANCE
01-May-2016 – 15-May-2016

12b. TD REV PERIOD OF PERFORMANCE
01-May-2016 – 15-May-2016

13. CONTRAC[redacted] AND DATE
(b)(6)
Signature:
Date: 19 April 2016

14. REGION
CENTCOM/ Regional

15. TECHNICAL POINTS OF CONTACT
(b)(6) CENTCOM Science Lead
(b)(6) – CENTCOM Regional Lead,
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL
X
Lt Co(b)(6)
COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact Details
8. Description of the Technical Directive Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	25	

4. TD TITLE	5. TOTAL TD ESTIMATE
Technical Writing and Grantsmanship Workshop, Ethiopia	HOURS: (b)(6) DOLLARS: $ **61,000**

6. CONTRACING OFFICER REPRESENTATIVE	7. CONTRACTOR POC
NAME: LT CO (b)(6)	NAME: (b)(6)
PHONE: (b)(6) EMAIL: (b)(6)	PHONE EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE)

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) grants technical direction to Metabiota to develop a writing workshop for Ethiopian collaborators from the Ethiopian Public Health Institute (EPHI) and National Animal Health Diagnostic and Investigation Center (NAHDIC) in accordance with SOW, Section 4.1, 4.2, 4.3, 4.4. This technical directive provides guidance to assist Metabiota in establishing a proposed implementation approach and budget for the period of performance from April 2016 to May 2016. During the PoP, Metabiota shall provide the following:

a. Metabiota shall reach out directly to (b)(6), the main POC from EPHI and (b)(6) the main POC from NAHDIC, to discuss the participant list, as the collaborators have already identified the workshop participants and will provide the names to Metabiota. Metabiota shall provide a PM and a SME1 for the pre-coordination of the workshop. The hours required for the pre-coordination should not exceed 10 hours/week for three weeks each for the PM and the SME1. Communication will (b)(6) should also include the discussion of the venue and logistic details regarding the implementation of the workshop
b. Metabiota shall use already developed training material for the workshop when possible, including PowerPoint presentations and hands-on exercises aimed at developing grantsmanship skills. For the curriculum planning and the development of new material, if needed, Metabiota shall not exceed a total of 20 hours of one SME1 effort.
c. The in-country writing workshop provided by Metabiota shall cover all aspects and skills within the grant writing process, especially those specific to grants.gov submission system used for the DTRA Fundamental Research for Combating Weapons of Mass Destruction Broad Agency Announcement (FRCWMD-BAA). Specific technical subjects that shall be included in the workshop are: hypothesis development; research proposal development (including the development of an abstract, white paper, and full proposal); literature reviews; identifying appropriate technical methodologies; biosafety and biosecurity requirements; human subjects and animal care and use approval process and requirements; collaboration development; analysis and discussion of expected results; project budgeting; and the grant submission process relevant to Thrust Area 6 of the FRCWMD-BAA through grants.gov. The workshop shall include hands-on assignments which focus on scientific writing and distinguishes the unique styles associated with abstracts, white papers, and full proposals ensuring the participants are fully prepared for future grant proposal development. The writing workshop shall be no more than five (5) days with a maximum number of 15 partner participants, with up to ten (10) participants identified as part of (b)(6) research team and up to five (5) participants identified by (b)(6) Metabiota shall provide up to two (2) SME1s (preferably the same personnel that were involved in the pre-coordination activities) for in-country presentations and hands-on training of the workshop participants. Both SME1s will be expected to arrive one (1) day prior to the workshop and leave no later than one (1) day after the workshop is completed. It is anticipated that approximately 50 hours/SME will be required for successful in-country preparation and execution of the workshop.
d. Metabiota shall include a final survey incorporating the participants' thoughts on how the workshop helped develop their writing skills as a deliverable to DTRA/CBEP.
e. Following the completion of the workshop, Metabiota shall guide one EPHI-led and one NAHDIC-led team to apply their new skills to develop materials for submission to the BAA (abstract, white paper, full proposal). The EPHI-led team shall draft proposal material for the project that has been in pre-coordination with CBEP: "Prevalence and associated risk factors of Rift Valley and Crimean-Congo hemorrhagic fever viruses in humans and livestock in pastoral areas in Ethiopia" or a research project of their preference. The NAHDIC-led team shall also draft proposal material for submission to the BAA in alignment with CBEP's research interests and mission scope. Metabiota shall provide remote technical assistance to both teams to apply the lessons learned to develop an abstract, white paper, and full proposal materials for submission to Thrust Area 6 of the FRCWMD-BAA. Metabiota shall provide up to two (2) SME1 (preferably the same personnel who participated in the in-country writing workshop) to receive and review the materials from the Ethiopian partners and to provide comments. The Ethiopian partners and the SMEs shall discuss feedback, via email, telephone or skype, regarding the abstract, white paper, and full proposal on a weekly basis for approximately 10 weeks for a maximum average of 5 hours/week, 50 hours total, per each team (the total hours may be divided unevenly during the 10 week period as the development of the full proposal will take the bulk of the discussion/feedback time). The reviews of the materials shall include not only feedback on the technical aspects of the documents but all aspects of the writing process. Program Management support for activities described in c.-e. Metabiota shall provide a PM; the hours required for the PM should not exceed 2 hours/week for eleven weeks.
f. If a white paper is requested by DTRA/CBEP, it is expected that EPHI-led and NAHDIC-let teams will submit it in a timely manner without Metabiota's assistance. However, upon receipt of comments or requested revisions of the white paper, Metabiota shall assist the Ethiopian partners in the development of a response to reviewers' comments. It is anticipated that this support may require up to 20 hours total per team to assist in the development of a response to reviewers.

Deliverables:

1. Survey of participants incorporating participants' thoughts on the workshop and how it assisted them as scientific writers.
2. Deliverables expected (described in section e. and f.):
   Deliverable #1: Abstract submitted by EPHI-led and NAHDIC-led teams, appropriate to Thrust Area 6 of the DTRA FRCWMD-BAA.
   Deliverable #2: White paper (including any requested clarifications and/or revisions) submitted by EPHI-led and NAHDIC-led teams appropriate for submission to grants.gov and Thrust Area 6 of the DTRA FRCWMD-BAA, if requested following successful review of the submitted abstract.
   Deliverable #3: Full proposals developed by EPHI-led and NAHDIC-led teams appropriate for submission to Thrust Area 6 of the DTRA BAA.

The period of performance for this effort will be from 2 May 2016 to 15 May 2016. Your technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $61,000 is requested by 29 April 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Phase 0: Proposal Development & Initiation (April 27-April 29, 2016)

Metabiota developed a project plan and implementation strategy that aligns with narrative from Box 8. It is anticipated that the plan for TD-025 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as a Research and Data Analyst I RDA)) time to identify the optimal strategy, including required deliverables and other programmatic requirements, which may be a part of project implementation.

The Metabiota PM and PC coordinated with (b)(6) Metabiota's Executive Vice President (EVP) in charge of Science Integration and communication with our regional scientific networks to identify the appropriate SMEs in technical writing and grantsmanship, to develop and augment project work plans and training materials. Ultimately, this measure was taken to ensure our technical and cost solutions were of the highest quality and sustainable, respectively.

Key Assumptions:

1. Metabiota received unofficial communication supporting an extension of its AEP contract from May 15, 2016 to November 15, 2016, this technical response has been developed with the key assumption that this additional time will be allotted to this project.
2. Metabiota assumes the need to acquire PAO approvals for any and all training materials developed in support of the Technical Writing and Grantsmanship Workshop
3. The Metabiota project team will receive all necessary or relevant concept notes or supporting documentation associated with this project immediately upon technical approach approval
4. Metabiota assumes that workshop participants representing EPHI and NAHDIC as Technical Writing and Grantsmanship Workshop participants have already been identified and notified of their potential for inclusion in a 5-day training event
5. Metabiota assumes that no more than 25% of all training materials developed in support of the Technical Writing and Grantsmanship Workshop will be novel, and that existing developed training materials will be identified and utilized
6. Metabiota will provide SME support to EPHI-led and NAHDIC-led teams for concept development and submission to the BAA, but does not expect to support concept identification.
7. Metabiota assumes that engagement with EPHI and NAHDIC throughout this project will involve a single lead point of contact from each respective organization, and that direct communication with individual team members from these organizations will not be necessary
8. Metabiota assumes all workshop participants are proficient in English and no translation of materials or interpretation of lectures will be necessary.
9. Metabiota assumes all workshop participants are in possession of a functional wi-fi enabled laptop with a standard business productivity software suite (Microsoft Office, Apple iWork, Google Docs).

Phase 1 – Project Coordination and Workshop Preparation (May 2-November 15, 2016)

Sub-Phase 2.1: Stakeholder Coordination (May 2-November 15, 2016)

Upon approval of the TD, Metabiota will engage DTRA CBEP for a project kick-off call to ensure that a mutual understanding of project goals and objectives are realized, ensure that any historical documentation relevant to project implementation is received, and establish a bi-weekly reporting and communication protocol. Metabiota will additionally engage identified Ethiopian points of contact representing EPHI and NAHDIC to establish consensus on project goals and the intended path forward. Metabiota will also establish regular bi-weekly communications with Ethiopian stakeholders and identify an associated communication protocol. In an effort to reduce personnel coordination risk and ensure that effective communication is maintained, Metabiota will clearly identify the expected roles and responsibilities of EPHI and NAHDIC team leaders as the primary and sole contact points for their organizations.

Sub-Phase 2.2: Workshop Materials Development (May 2-June 10, 2016)

Metabiota will seek existing workshop materials that cover subjects relevant to proposal writing. Metabiota may utilize materials available internally, from open-access sources, or from subcontractors engaged as SMEs. Once selected, Metabiota will review these materials and identify any additions that need to be made. While the workshop will cover proposal writing in general, Metabiota expects to provide some direction on writing to DTRA BAA Thrust Area 6 specifically. In light of this, Metabiota will develop any supplements to the existing workshop material that are necessary to convey this information. Metabiota assumes these supplements will constitute up to 25% new material. The final materials will include PowerPoint presentations and hands-on learning exercises covering hypothesis development, research proposal development, literature reviews, methods selection, biosafety and biosecurity requirements, human and animal subject use requirements, development of collaborations, analysis and discussion of expected results, budget development, and the grant submission process specific to BAA Thrust Area 6. Metabiota will also develop a post-workshop survey to solicit feedback from participants on the relevance and utility of the workshop. Once all materials have been internally reviewed and finalized Metabiota assumes it will be necessary to submit them to DTRA for PAO approval.

Deliverables:

- Deliverable 1: Submission of developed post workshop survey to DTRA CBEP representation
- Deliverable 2: Submission of Technical Writing and Grantsmanship Workshop Materials to DTRA CBEP for PAO approval

Sub-Phase 2.3: Workshop Implementation Preparation (May 2-August 12, 2016)

Metabiota expects a total of no more than (15) previously identified participants will be invited to the Technical Writing and Grantsmanship Workshop including no more than (10) representing (b)(6) team from EPHI and no more than (5) representing (b)(6) team from NAHDIC. Immediately upon engagement with identified Ethiopian stakeholders, Metabiota will work collaboratively with team leads representing EPHI and NAHDIC to clearly identify workshop participants, dates and a location for the event. Metabiota will develop and submit a Training Event Plan (TEP) detailing this information to DTRA CBEP no later than 60 days prior to workshop implementation. As all in-country logistical support services relevant to this workshop will be coordinated through CLS, Metabiota expects to submit a CLS form detailing all necessary accommodations for all training participants no later than 45 days prior to workshop implementation. Metabiota additionally expects to send two U.S. based project SMEs to Ethiopia to lead the Technical Writing and Grantsmanship Workshop and will submit a Cable Clearance Request (CCR) and Travel Authorization Request to DTRA CBEP representation no later than 45 days prior to scheduled travel for workshop implementation. Metabiota will also develop a pre-travel risk report and gain internal approval from AEP leadership prior to sending any members of its project team to Ethiopia. Additionally, Metabiota SMEs will coordinate with (b)(6) and (b)(6) to familiarize themselves with the participants' existing work and to assign them preparatory tasks leading up to the workshop such as brainstorming possible research ideas.

Phase 2 – Technical Writing and Grantsmanship Workshop Implementation (August 15-19, 2016) Metabiota will conduct a five-day workshop on specific aspects of technical writing and grantsmanship in order to train and mentor selected representation from EPHI and NAHDIC. The workshop will help participants improve their general technical writing and grantsmanship skills and provide specific focus on the grants.gov submission system used for the DTRA Fundamental Research for Combating Weapons of Mass Destruction Broad Agency Announcement (FRCWMD-BAA).

Metabiota will accomplish this by sending 2 technical writing and grantsmanship SMEs to the identified training location within Ethiopia to lead the the 5-day Technical Writing and Grantsmanship Workshop. This workshop will include five days of lectures and team specific working group sessions to cover topics including but not limited to: hypothesis development; research proposal development (including the development of an abstract, white paper, and full proposal); literature reviews; identifying appropriate technical methodologies; biosafety and biosecurity requirements; human subjects and animal care and use approval process and requirements; collaboration development; analysis and discussion of expected results; project budgeting; and the grant submission process relevant to Thrust Area 6 of the FRCWMD-BAA through grants.gov. The workshop will include no more than 15 participants (no more than 10 from EPHI, and no more than 5 from NAHDIC) and each participant will have access to, and be able to work directly with the SMEs. The PM will be on-site provide logistical and programmatic support to the SMEs throughout the workshop and will ensure effective integration and overall congruency with CLS representation tasked with supporting the workshop. The PM will be responsible for ensuring the administration of the workshop survey and for collecting and aggregating all survey information. The PM will also provide daily training reports to DTRA CBEP representation and will coordinate with the PC, AEP leadership, and DTRA CBEP representation on a daily basis to ensure that any implementation risks are identified and mitigated appropriately. The PC will support the PM in the development and submission of a Training Trip Report (TTR) no later than 5 days after completion of the workshop.

Deliverables:

- Deliverable 1: Submission of participant survey results to DTRA CBEP representation no later than 10 days' post completion of workshop implementation activities.

Phase 3 – BAA Materials Development (Abstract, White Paper and Full Proposal) (August 22-October 14,2016)

Metabiota expects that the project teams will develop and revise their abstracts as part of the the Grantsmanship workshop, and also expects the project teams to begin

white paper development during the workshop. Immediately following the workshop the EPHI-led and NAHDIC-led teams will each submit their abstract to DTRA. The teams will then immediately resume white paper development, regardless of whether or not a white paper has been invited. Each team will designate a lead point-of-contact who will submit the white paper to the SMEs. The SMEs will review the submitted materials and provide specific recommendations for improvement to each POC via phone, email, or Skype. The POCs will be responsible for relaying this information to their team and coordinating the revisions process. Each team will make revisions to the material and the POC will resubmit it to the SMEs for a second review. This process will continue until one of the following occurs: the SMEs deem the white papers are sufficiently well-developed for submission; the end of the project period of performance, or, assuming a white paper has been invited, the white paper submission deadline. Similarly, upon completion of the white papers, the teams will begin full proposal development with review of the technical volumes and budgets by the SMEs.

The project teams will submit the white papers to DTRA independent of SME assistance. Following submission, the project teams will initiate development of full proposals. SMEs will provide guidance and direction to the project POCs and review any draft materials submitted to them. The SMEs will continue to support the project teams in proposal development until the proposal is deemed ready for submission or the end of the Period of Performance is reached.

Deliverables:

- Deliverable 1: Abstract submitted by EPHI-led and NAHDIC-led teams, appropriate to Thrust Area 6 of the DTRA FRCWMD-BAA.
- Deliverable 2: White paper (including any requested clarifications and/or revisions) submitted by EPHI-led and NAHDIC-led teams appropriate for submission to grants.gov and Thrust Area 6 of the DTRA FRCWMD-BAA, if requested following successful review of the submitted abstract.
- Deliverable 3: If time permits, full proposals developed by EPHI-led and NAHDIC-led teams appropriate for submission to Thrust Area 6 of the DTRA BAA

Phase 4 – Project Closeout and White Paper Response Assistance (October 17- November 15, 2016)

Subphase 4.1 White Paper Response Assistance (October 17- November 15, 2016)
Following submission of respective white papers, provide final review and post-workshop support to participants as needed. the EPHI-led and NAHDIC-led teams may receive comments or requests for clarification from DTRA. If the teams receive this feedback within the project PoP they will submit requests for assistance to the SMEs. After reviewing the feedback, the SMEs will provide the POCs with specific recommendations for addressing the comments. The POCs will coordinate the revisions to the white papers to address the comments and requests for clarification and submit a new draft to the SMEs. Following review, the SMEs will provide final comments or direction as necessary to the POCs.

Subphase 4.2 Final Report Submission (October 17- November 15, 2016)
Concurrently, and as part of closeout procedures, the Metabiota project team will write a final report detailing all actions taken throughout project implementation, lessons learned, and recommended next steps for submission to DTRA CBEP.

Risk Management:
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix:

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
				Cost		
Subject Matter Expert Subcontracting	Due to limited insight into participant profiles and research activities, additional costs and time-delays may occur to identify and coordinate the most appropriate SME coordination, which may impact the ability to conduct this activity in full.	3	3	Medium	Metabiota has preselected SMEs for this effort, and contingent understanding of the participants' work, Metabiota will evaluate the selected SMEs for inclusion. As needed, Metabiota will attempt to reach a basic agreement with SMEs as soon as possible and issue authorization to proceed while subcontracts are being put into place	(b)(4); (b)(6)
Participant Identification and Coordination	Due to Metabiota's limited insight regarding the participants of the Writing and Grantsmanship Workshop, and their respective academic and logistical capacities (i.e. possession of laptops, research tools, previously cited materials, quality of data sources, etc.) it is possible that the quality of improvement for their manuscripts may be hindered	4	3	Medium-High	Metabiota will ensure that effective coordination and communication with Ethiopian Stakeholders is employed to ensure that a maximal amount of information about the participants, their research, and their respective capacities' is garnered before the workshop. This will allow for the controlling of mentioned confounders, and a managed increase in efficiency with regard to review and operation.	
Programmatic labor hours	Following guidance from CBEP POC's, the current budget for Metabiota Program Management and Project Coordination hours are extremely low. As a result, and based on previous experience implementing overseas activities, there is significant risk for budget overrun.	5	5	(b)(4); (b)(6)	Metabiota recommends an increase in overall labor hours based on the described tasks and previous performance on similar AEP programmatic work	Low
Technical labor hours	Technical labor hours may be insufficient for the continued mentorship of Ethiopian stakeholders and for the development of workshop materials if they do not exist.	4	5	Medium-High	Metabiota recommends an increase in overall labor hours based on the described tasks and previous performance on similar AEP programmatic work	Low
				Schedule		
Project Coordination	Technical Writing and Grantsmanship Workshop, Ethiopia involves a significant number of stakeholders and participants representing various organizations, putting implementation activities at risk of delay or cancellation.	5	2	Medium	Establish and hold regular calls with all stakeholders and identify multiple possible implementation dates. Identify critical components as early as possible and redirect efforts when it becomes clear that targeted implementation dates will not be achievable.	(b)(4); (b)(6)
				Performance		

Political Instability	Sporadic violence near borders and occasionally in the capital may lead to risks of being unable to safely complete in-country work.	2	5	Medium	Coordinate closely with DTRA and AFRICOM to be aware of any potential risks to performers, and target a location for the workshop well away from risky areas.	(b)(4); (b)(6)

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN)

CLIN	DESCRIPTION	TOTAL
1002	LABOR	[illegible]
1003	MATERIALS	[illegible]
1004	OTHER	[illegible]
1005	TRAVEL	[illegible]
TOTAL		$89,240.22

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED 2 PAGES)

Period of Performance

The period of performance for this effort is May 2, 2016 – May 15 2016

Labor

Costs for direct labor to support this activity is required for the following personnel

All phases

Metabiota Program Manage (b)(6) will provide oversight of the planning and execution of all program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity

As some of our Subject Matter Experts will be independent consultants, the Metabiota PM will additionally oversee and ensure that all project personnel adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance and any other requirements which may be applicable to the work. The Metabiota PM will provide management oversight of the project team, including independent consu tants throughout the span of the project.

The Metabiota PM will oversee the coordination between the Ethiopian stakeholders and the workshop planning team and will ensure the project team captures and keeps in account stakeholder input regarding key information relevant to the planning of the workshop. The PM will manage any logistic concerns that may arise during the course of the workshop, allowing the SMEs to maintain focus the workshop without interruption. The PM will restrict his time expenditure in country to an operational minimum while ensuring congruency in programmatic support.

Metabiota requests that a total 110 hours be allotted to the Metabiota PM For the activities described above. General programmatic oversight will require at minimum a 5% level of effort over the course of the 15 weeks to support phase 1 activities. During this time, the PM will be required to lead all weekly communicaitons and provide general oversight to the PC and project SMEs, an effort that is estimated to require at least 2 hours per week for a total of 30 during the phase 1. Phase 2 will include workshop implementation activities and will require the PM to commit at least a 50% level of effort during a 1 week period to ensure successful workshop implementation and for the provision of programmatic and logistical support to Project SMEs tasked with leading the workshop for a total of 20 hours . Phase 3 will task the PM to continue leading all stakeholder communications and to provide support and oversight to the PC and SMEs throughout post workshop activities. The PM will need to commit to at least a 10% level of effort over 10 weeks for a total of 40 hours. Phase 4 will task the PM to continue leading all stakeholder communications and to provide support and oversight to the PC and SMEs throughout submission response activites and final report development. The PM will need to commit to at least a 10% level of effort over 4 weeks for a total of 12 hours.

Metabiota Project Coordinator (b)(6) will act as Project Coordinator throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will lead the planning and execution of DTRA CBEP objectives towards the completion of project goals. The PC will do so by participating in proposal development and leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. (expand)

Metabiota requests that a total 124 hours be allotted to the Metabiota PC For the act vities described above. General programmatic coordination will require at minimum a 10% level of effort over the course of the 15 weeks to support phase 1 activities. Dur ng this time, the PC will be required to participate in and record all weekly communicaitons and provide general support the PM and project SMEs, an effort that is estimated to require at least 4 hours per week for a total of 60 during the phase 1. Phase 2 will include workshop implementation activities and will require the PC to remotely support workshop implementation at a 10% level of effort during a 1 week period to ensure successful workshop implementation and transparent reporting to DTRA CBEP representation. Phase 3 will task the PC to continue participating in and recording all stakeholder communications and to provide support PM and SMEs throughout post workshop activities. The PC will need to commit to at least a 10% level of effort over 10 weeks for a total of 40 hours. Phase 4 will task the PC to continue participating in and recording all stakeholder communications and to provide support to the PM and SMEs throughout submission response activites and final report development. The PC will need to commit to at least a 10% level of effort over 4 weeks for a total of 12 hours.

Subject Matter Expert I (2 total). The SME is will be tasked with providing workshop materials, workshop participation and mentoring of workshop participants following workshop conclusion. During phase 1 the SMEs will review the workshop materials to make any necessary updates and ensure the materials' relevance to the Ethiopian scientists. It is estimated that the SMEs will need to develop up to 25% original workshop material to supplement existing workshop materials. The hours necessary for this development were estimated using a ratio of 4 hours of development for each hour of contact time.

During phase 2 the SMEs will deliver lectures on topics relevant to grant writing and submission, and facilitate small group work based on this content. Phase 3 will commence following workshop completion. During this phase the SMEs will provide remote support to the POCs for the EPHI and NAHDIC teams in their development of an abstract and white paper suitable for submission to DTRA BAA Thrust Area 6. Upon receipt from the POCs, the SMEs will review the drafts of these documents and provide feedback via telephone, email or skype. During phase 4, following submission of white papers by the EPHI-led and NAHDIC-led teams, the SMEs will provide further assistance to the POCs in responding to any comments or revisions requested by DTRA CBEP.

Metabiota requests a total of 384 hours be allotted to the Metabiota SMEs for the activites described above. Project coordination and materials development activites during this phase are estimated to require 46 hours per SME over the course of 15 weeks for a total of 92 hours. The SMEs will be required to participate in regular communicaitons with and provide general support to the PM during phase 1 activities. Phase 2 will include workshop implementation activities and will require the SMEs to be available in country at a 100% level of effort during a 1 week period to ensure successful workshop implementation and transparent reporting to the PM. The SMEs will be required to travel to Ethiopia from the United States for this phase and will spend a 7 full days at a 100% level of effort each. Thus a total of 56 hours per SME will be required for Phase 2. Phase 3 will task the SMEs to continue participating in relevant stakeholder communications and to provide SME support throughout post workshop activities. The SMEs will need to commit no less than 70 hours total over 10 weeks each for a total of 140 hours. Phase 4 will task the SMEs to continue participating in relevant stakeholder communications and to provide support throughout submission response activites The SMEs will need to commit to at least 5 hours per week over 4 weeks for a total of 20 hours each.

Materials

We have budgeted for an effort based international communications capacity for our project team while they are in country implementing the workshop. The costs budgeted here reflect activating a moderate calling plan to support the efforts of the program manager and subject matter experts.

Other Direct Costs
Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Independent Consulting Agreements
Consulting agreements will be issued to SMEs and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Support is requested for two SMEs to travel to Addis Ababa to implement the writing workshop. The travel budget represents the estimated amount required; travel on the AEP contract is cost reimbursable. Metabiota expects to leverage other requirements for travel in order to have the PM in-country for the grantsmanship workshop at no additional cost.

Our travel budget assumes the workshop will be held on 5 consecutive days. If, through discussion with the Ethiopian stakeholders and alternative schedule is created or an alternative location is desired, travel costs may be impacted accordingly.

10. FUNDING AUTHORIZED THIS TD REV

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	$ -		

COMMENTS (OPTIONAL)

11a. FUNDS AUTHORIZED FOR THIS TD REV

$ $0

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ $0

12a. CURRENT PERIOD OF PERFORMANCE

2- May-2016- 15-May-2016

12b. TD REV PERIOD OF PERFORMANCE

2-May-2016 – 15-May-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature: (b)(6)

Date: (b)(6) 29APR16

14. REGION

AFRICOM/ Ethiopia

15. TECHNICAL POINTS OF CONTACT

Ethiopia Country Manager:
(b)(6)

AFRICOM Science Manager:
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

Lt Co (b)(6)
COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12. 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative Contact details
7. Contractor Point of Contact Details
8. Description of the Technical Directive Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

From: (b)(6)
To:
Cc:

Subject: [Non-DoD Source] Re: TD-022 Rev A: UG BSV Grantsmanship Trng and TD-025 Rev A: Ethiopia Tech Writing Granstmanship/Workshop (No Cost PoP Extensions)
Date: Friday, May 13, 2016 2:48:21 PM
Attachments: Draft_CTR-AEP-CBEP_TD-022RevA_UG_BSV Grantsmanship Trng.pdf
Draft_CTR-AEP-CBEP_TD-025RevA_Ethiopia Tech Writing Grantsmanship Workshop.pdf

(b)(6)

Please find our signed TD's attached. For each of the TD's (e.g., TD-022 and TD-025), we recognize the updated TD extends our project period of performance, but does not change any other components of the previously approved activity.

Best regards,

(b)(6)
Deputy Program Director - AEP
Metabiota, Inc.
email (b)(6)
Mobi
Skyp

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

On 5/13/16, 12:42 PM, (b)(6) Col USAF DTRA J3-7 (US)" (b)(6) e:

>Please find attached, TD-022 Rev A and TD-025 Rev A extending the Period of Performance (PoP) from 15 May 2016 to 15 November 2016 at no additional cost.
>
>Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also Cc'd), if you have any technical questions.
>
>Thanks,
>

(b)(6)
>Program Manager, Academic Engagement Partnership (AEP) Program
>J3CTB/Cooperative Biological Engagement Program
>8725 John J. Kingman Rd

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	022	A

4. TD TITLE

Uganda Biosurveillance and Grantsmanship Training

5. TOTAL TD ESTIMATE:

HOURS. _____ DOLLARS: $ **$253,635.27**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: (b)(6)

PHONE: (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC

NAME: (b)(6)

PHONE: (b)(6) EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-022 from 15 May 2016 to 15 November 2016 at no additional cost. This PoP extension is to provide enough time to continue providing grantsmanship training and subject matter expert (SME) assistance for the coordination of project design, research proposal development, and implementation of a pilot biosurveillance study in Uganda. Metabota should coordinate directly with the Technical POCs identified below. No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV.

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$253,635.27**

12a. CURRENT PERIOD OF PERFORMANCE

21-MAR-2016 – 15 MAY 2016

12b. TD REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

Signatur (b)(6)

Date: **13 May 2016**

14. REGION

AFRICOM/ Uganda

15. TECHNICAL POINTS OF CONTACT

AFRICOM Science Manage (b)(6)

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

Lt Col (b)(6)

COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1 -14-C-0104	METABIOTA	025	A

4. TD TITLE

Technical Writing and Grantsmanship Workshop, Ethiopia

5. TOTAL TD ESTIMATE:

HOURS. _____ DOLLARS: $ **$86,957.81**

6. CONTRACING OFFICER REPRESENTATIVE

NAME: LT COL (b)(6)

PHONE (b)(6) EMAIL: (b)(6)

7. CONTRACTOR POC

NAME: (b)(6)

PHONE. EMAIL. (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

This revision extends the Period of Performance (PoP) for TD-025 from 15 May 2016 to 15 November 2016 at no additional cost. This PoP extension is to provide enough time to continue developing a writing workshop for Ethiopian collaborators from the Ethiopian Public Health Institute (EPHI) and National Animal Health Diagnostic and Investigation Center (NAHDIC). Metabiota should coordinate directly with the Technical POCs identified below. No changes to the previously approved proposal are required at this time.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES).

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN).

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$0.00**

9c. TD SOLUTION BASIS OF ESTIMATE – DESCRIPTION (NOT TO EXCEED 2 PAGES..

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ -		
1003	MATERIALS	$ -		
1004	ODCs	$ -		
1005	TRAVEL	$ -		
	TOTAL	**$ -**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ **$0**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV.

$ **$86,957.81**

12a. CURRENT PERIOD OF PERFORMANCE

2-MAY-2016 – 15 MAY 2016

12b. TD REV PERIOD OF PERFORMANCE

15-MAY-2016 – 15-NOV-2016

13. CONTRACTOR SIGNATURE AND DATE

Signatur (b)(6)

Date: **13 May 2016**

14. REGION

AFRICOM/ Ethiopia

15. TECHNICAL POINTS OF CONTACT

Ethiopia Country Manager:
(b)(6)

AFRICOM Science Manager:
(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

X

Lt Co (b)(6)
COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
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12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

>Ft Belvoir, VA 22060
>W: (b)(6)
>Ema
>
>
>
>

From: (b)(6)
To:
Cc:

Subject: RE: [Non-DoD Source] Re: TD-025: Ethiopia Technical Writing & Grantsmanship/Workshop
Date: Thursday, May 12, 2016 8:30:26 AM
Attachments: CTR-AEP-CBEP_TD-025_Ethiopia Tech Writing Grantsmanship Workshop_12May2016.pdf

(b)(6)

The proposed approach is approved. I've updated blocks 10 & 11 and signed.

Please send back with your signature as well.

Thanks,

(b)(6)

Program Manager, Academic Engagement Partnership (AEP)
Program
J3CTB/Cooperative Biological Engagement Program
8725 John J. Kingman Rd
Ft Belvoir, VA 22060
W: (b)(6)
Em

-----Original Message-----
From: (b)(6)
Sent: Tuesday, May 10, 2016 10:27 AM
To:
Cc:
Subject: Re: [Non-DoD Source] Re: TD-025: Ethiopia Technical Writing & Grantsmanship/Workshop

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Dea (b)(6)

Please find our responses to your questions below. Additionally, narrative in TD-025 Box 9 has been updated to reflect the information captured below. For your convenience, I have attached a Word and signed PDF version of the revised TD. Of note, all updated narrative has been highlighted yellow.

Please let us know if any additional information is required.

Best regards,

(b)(6)

Defense Threat Reduction Agency
And USSTRATCOM Center for Combating WMD
8725 John J. Kingman Rd. Stop 6201
Fort Belvoir, VA 22060-6201

TECHNICAL DIRECTIVE (TD)

1. CONTRACT NUMBER	2. CONTRACTOR	3a.TD NUMBER	3b.REV
HDTRA1-14-C-0104	METABIOTA	25	

4. TD TITLE
Technical Writing and Grantsmanship Workshop, Ethiopia

5. TOTAL TD ESTIMATE:
HOURS: (b)(6)
DOLLARS: $ **61,000**

6. CONTRACING OFFICER REPRESENTATIVE
NAME: LT CO(b)(6)
PHONE (b)(6) EMA(b)(6)

7. CONTRACTOR POC
NAME: (b)(6)
PHONE: EMAIL: (b)(6)

8. DESCRIPTION OF TD (NOT TO EXCEED 1 PAGE):

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engager rogram (CBEP) grants technical direction to Metabiota to develop a writing workshop for Ethiopian collaborators from the Ethiopian Public Health Institute (EPHI) and National Animal Health Diagnostic and Investigation Center (NAHDIC) in accordance with SOW, Section 4.1, 4.2, 4.3, 4.4. This technical direct vides guidance to assist Metabiota in establishing a proposed implementation approach and budget for the period of performance from April 2016 to May 2016. the PoP. Metabiota shall provide the following

a. Metabiota shall reach out directly t (b)(6) the main POC from EPHI and (b)(6) (b)(6) the main [illegible], to discuss the participant list, as the collaborators have already identified the workshop participants and will provide the names to Metabiota. Metabiota shall provide a PM and a SME1 for the pre-coordination of the workshop. The hours required for the pre-coordination should not exceed 10 hours/week for three weeks each for the PM and the SME1. Communication with (b)(6) should also include the discussion of the venue and logistic details regarding the imp ementation of the workshop.
b. Metabiota shall use already developed training material for the workshop when possible, including PowerPoint presentations and hands-on exercises aimed at developing grantsmanship skills. For the curriculum planning and the development of new material, if needed, Metabiota shall not exceed a total of 20 hours of one SME1 effort.
c. The in-country writing workshop provided by Metabiota shall cover all aspects and skills within the grant writing process, especially those specific to grants.gov submission system used for the DTRA Fundamental Research for Combating Weapons of Mass Destruction Broad Agency Announcement (FRCWMD-BAA). Specific technical subjects that shall be included in the workshop are: hypothesis development; research proposal development (including the development of an abstract, white paper, and full proposal); literature reviews identifying appropriate technical methodologies; biosafety and biosecurity requirements; human subjects and animal care and use approval process and requirements; collaboration development; analysis and discussion of expected results; project budgeting; and the grant submission process relevant to Thrust Area 6 of the FRCWMD-BAA through grants.gov. The workshop shall include hands-on assignments which focus on scientific writing and distinguishes the unique styles associated with abstracts, white papers, and full proposals ensuring the participants are fully prepared for future grant proposal development. The writing workshop shall be no more than five (5) days with a maximum number of 15 partner participants, with up to ten (10) participants identified as part o (b)(6) esearch team and up to five (5) participants identified by (b)(6) Metabiota shall provide up to two (2) SME1s (preferably the same pers e involved in the pre-coordination activities) for in-country presentations and hands-on training of the workshop participants. Both SME1s will be expected to arrive one (1) day prior to the workshop and leave no later than one (1) day after the workshop is completed. It is anticipated that approximately 50 hours/SME will be required for successful in-country preparation and execution of the workshop.
d. Metabiota shall include a final survey incorporating the participants' thoughts on how the workshop helped develop their writing skills as a deliverable to DTRA/CBEP.
e. Following the completion of the workshop, Metabiota shall guide one **EPHI-led and one NAHDIC-led** team to apply their new skills to develop materials for submission to the BAA (abstract, white paper, full proposal). The EPHI-led team shall draft proposal material for the project that has been in pre-coordination with CBEP: "Prevalence and associated risk factors of Rift Valley and Cr mean-Congo hemorrhagic fever viruses in humans and livestock in pastoral areas in Ethiopia" or a research project of their preference. The **NAHDIC-led team** shall also draft proposal material for submission to the BAA in alignment with CBEP's research interests and mission scope. Metabiota shall provide remote technical assistance to both teams to apply the lessons learned to develop an abstract, white paper, and full proposal materials for submission to Thrust Area 6 of the FRCWMD-BAA. Metabiota shall provide up to two (2) SME1 (preferably the same personnel who participated in the in-country writing workshop) to receive and review the materials from the Ethiopian partners and to provide comments. The Ethiopian partners and the SMEs shall discuss feedback, via email, telephone or skype, regarding the abstract, white paper, and full proposal on a weekly basis for approximately 10 weeks for a maximum average of 5 hours/week, 50 hours total, per each team (the total hours may be divided unevenly during the 10 week period as the development of the full proposal will take the bulk of the discussion/feedback time). The reviews of the materials shall include not only feedback on the technical aspects of the documents but all aspects of the writing process. Program Management support for activities described in c.-e. Metabiota shall provide a PM the hours required for the PM should not exceed 2 hours/week for eleven weeks
f. If a white paper is requested by DTRA/CBEP, it is expected that **EPHI-led and NAHDIC-le**t teams will submit it in a timely manner without Metabiota's assistance. However, upon receipt of comments or requested revisions of the white paper, Metabiota shall assist the Ethiopian partners in the development of a response to reviewers' comments. It is anticipated that this support may require up to 20 hours total per team to assist in the development of a response to reviewers

Deliverables:
1. Survey of participants incorporating participants' thoughts on the workshop and how it assisted them as scientific writers.
2. Deliverables expected (described in section e. and f.):
   Deliverable #1: Abstract submitted by **EPHI-led and NAHDIC-led** teams, appropriate to Thrust Area 6 of the DTRA FRCWMD-BAA.
   Deliverable #2: White paper (including any requested clarifications and/or revisions) submitted by **EPHI-led and NAHDIC-led** teams appropriate for submission to grants.gov and Thrust Area 6 of the DTRA FRCWMD-BAA, if requested following successful review of the submitted abstract.
   Deliverable #3: Full proposals developed by **EPHI-led and NAHDIC-led** teams appropriate for submission to Thrust Area 6 of the DTRA BAA.

The period of performance for this effort will be from **2 May 2016 to 15 May 2016**. technical approach, proposed budget, and basis of estimate for implementing this requirement, not to exceed $61,000 is requested by 29 April 2016. Please note that the current Metabiota contract does not allow for logistical support services, such as translation, shipping & customs clearance, conference services, etc. These requirements will be coordinated through CLS and the in-country DTRO (as appropriate) by the CBEP POCs below.

9a. PROPOSED SOLUTION (NOT TO EXCEED 2 PAGES):

Phase 0: Proposal Development & Initiation (April 27-April 29, 2016)

Metabiota developed a project plan and implementation strategy that aligns with narrative from Box 8. It is anticipated that the plan for TD-025 is considered a living document and it is expected that revisions to the plan will be necessary following stakeholder meetings. During proposal development, Metabiota expects to use Program Manager (PM) and Project Coordinator (PC, billed as a Research and Data Analyst I RDA)) time to identify the optimal strategy, including required deliverables and other programmatic requirements, which may be a part of project implementation.

The Metabiota PM and PC coordinated wit(b)(6) Metabiota's Executive Vice President (EVP) in charge of Science Integration and communication with our regional scientific networks to identify the appropriate SMEs in technical writing and grantsmanship, to develop and augment project work plans and training materials. Ultimately, this measure was taken to ensure our technical and cost solutions were of the highest quality and sustainable, respectively.

Key Assumptions:

1. Metabiota received unofficial communication supporting an extension of its AEP contract from May 15, 2016 to November 15, 2016, this technical response has been developed with the key assumption that this additional time will be allotted to this project.
2. Metabiota assumes the need to acquire PAO approvals for any and all training materials developed in support of the Technical Writing and Grantsmanship Workshop.
3. The Metabiota project team will receive all necessary or relevant concept notes or supporting documentation associated with this project immediately upon technical approach approval.
4. Metabiota assumes that workshop participants representing **EPHI and NAHDIC** as Technical Writing and Grantsmanship Workshop participants have already been identified and notified of their potential for inclusion in a 5-day training event.
5. Metabiota assumes that no more than 25% of all training materials developed in support of the Technical Writing and Grantsmanship Workshop will be novel, and that existing developed training materials will be identified and utilized
6. Metabiota will provide SME support to **EPHI-led and NAHDIC-led** teams for concept development and submission to the BAA, but does not expect to support concept identification.
7. Metabiota assumes that engagement with **EPHI and NAHDIC** throughout this project will involve a single lead point of contact from each respective organization, and that direct communication with individual team members from these organizations will not be necessary.
8. Metabiota assumes all workshop participants are proficient in English and no translation of materials or interpretation of lectures will be necessary.
9. Metabiota assumes all workshop participants are in possession of a functional Wi-Fi enabled laptop with a standard business productivity software suite (Microsoft Office, Apple iWork, Google Docs).

Phase 1 – Project Coordination and Workshop Preparation (May 9-November 15, 2016)

Sub-Phase 1.1: Stakeholder Coordination (May 9-November 15, 2016)

Upon approval of the TD, Metabiota will engage DTRA CBEP for a project kick-off call to ensure that a mutual understanding of project goals and objectives are realized, ensure that any historical documentation relevant to project implementation is received, and establish a bi-weekly reporting and communication protocol. Metabiota will additionally engage identified Ethiopian points of contact representing **EPHI and NAHDIC** to establish consensus on project goals and the intended path forward. Metabiota will also establish regular bi-weekly communications with Ethiopian stakeholders and identify an associated communication protocol. In an effort to reduce personnel coordination risk and ensure that effective communication is maintained. Metabiota will clearly identify the expected roles and responsibilities of **EPHI and NAHDIC** team leaders as the primary and sole contact points for their organizations.

Sub-Phase 1.2: Workshop Materials Development (May 9-June 10, 2016)

Upon approval of the TD, Metabiota will seek existing workshop materials that cover subjects relevant to proposal writing. Metabiota may utilize materials available internally, from open-access sources, or from subcontractors engaged as SMEs. Once selected, Metabiota will review these materials and identify any additions that need to be made. While the workshop will cover proposal writing in general, Metabiota expects to provide some direction on writing to DTRA BAA Thrust Area 6 specifically. In light of this, Metabiota will develop any supplements to the existing workshop material that are necessary to convey this information. Metabiota assumes these supplements will constitute up to 25% new material. The final materials will include PowerPoint presentations and hands-on learning exercises covering hypothesis development, research proposal development, literature reviews, methods selection, biosafety and biosecurity requirements, human and animal subject use requirements, development of collaborations, analysis and discussion of expected results, budget development, and the grant submission process specific to BAA Thrust Area 6. Metabiota will also develop a post-workshop survey to solicit feedback from participants on the relevance and utility of the workshop. Once all materials have been internally reviewed and finalized Metabiota will submit them to DTRA for PAO approval

Deliverables:

- Deliverable 1: Submission of developed post workshop survey to DTRA CBEP representation
- Deliverable 2: Submission of Technical Writing and Grantsmanship Workshop Materials to DTRA CBEP for PAO approval

Sub-Phase 1.3: Workshop Implementation Preparation (May 9-July 22, 2016)

Metabiota expects a total of no more than (15) previously identified participants will be invited to the Technical Writing and Grantsmanship Workshop including no more than (10) representing(b)(6) team from **EPHI** and no more than (5) representing(b)(6) eam from **NAHDIC**. Immediately upon engagement with identified Ethiopian stakeholders, Metabiota will work collaboratively with team leads representing **EPHI and NAHDIC** to clearly identify workshop participants, dates and a location for the event. Metabiota will inform all workshop participants to come prepared with relevant resources including their own personal Wi-Fi-enabled laptop computer with standard business productivity software. Metabiota will develop and submit a Training Event Plan (TEP) detailing this information to DTRA CBEP no later than 60 days prior to workshop implementation. As all in-country logistical support services relevant to this workshop will be coordinated through CLS, Metabiota expects to submit a CLS form detailing all necessary accommodations for all training participants no later than 45 days prior to workshop implementation. Metabiota additionally expects to send two U.S. based project SMEs to Ethiopia to lead the Technical Writing and Grantsmanship Workshop and will submit a Cable Clearance Request (CCR) and Travel Authorization Request to DTRA CBEP representation no later than 45 days prior to scheduled travel for workshop implementation. Metabiota will also develop a pre-travel risk report and gain internal approval from AEP leadership prior to sending any members of its project team to Ethiopia. Additionally, Metabiota SMEs will coordinate with(b)(6) to familiarize themselves with the participants' existing work and to assign them preparatory tasks leading up to the workshop such as brainstorming possible research ideas.

Phase 2 – Technical Writing and Grantsmanship Workshop Implementation (July 25-29, 2016)

Metabiota will conduct a five-day workshop on specific aspects of technical writing and grantsmanship in order to train and mentor selected representation from **EPHI and NAHDIC**. The workshop will help participants improve their general technical writing and grantsmanship skills and provide specific focus on the grants.gov submission system used for the DTRA Fundamental Research for Combating Weapons of Mass Destruction Broad Agency Announcement (FRCWMD-BAA).

Metabiota will accomplish this by sending 2 technical writing and grantsmanship SMEs to the identified training location within Ethiopia to lead the the 5-day Technical Writing and Grantsmanship Workshop. This workshop will include five days of lectures and team specific working group sessions to cover topics including but not limited to: hypothesis development; research proposal development (including the development of an abstract, white paper, and full proposal); literature reviews; identifying appropriate technical methodologies; biosafety and biosecurity requirements; human subjects and animal care and use approval process and requirements; collaboration development; analysis and discussion of expected results, project budgeting, and the grant submission process relevant to Thrust Area 6 of the FRCWMD-BAA through grants.gov. The workshop will include no more than 15 participants (no more than 10 from **EPHI**, and no more than 5 from **NAHDIC**) and each participant will have access to, and be able to work directly with the SMEs. The PM will be on-site providing logistical and programmatic support to the SMEs throughout the workshop and will ensure effective integration and overall congruency with CLS representation tasked with supporting the workshop. The PM will be responsible for ensuring the administration of the workshop survey and for collecting and aggregating all survey information. The PM will also provide daily training reports to DTRA CBEP representation and will coordinate with the PC, AEP leadership, and DTRA CBEP representation on a daily basis to ensure that any implementation risks are identified and mitigated appropriately. The PC will support the PM in the development and submission of a Training Trip Report (TTR) no later than 5 days after completion of the workshop.

Deliverables:

- Deliverable 1: Submission of participant survey results to DTRA CBEP representation no later than 10 days' post completion of workshop implementation activities.

Phase 3 – BAA Materials Development (Abstract, White Paper and Full Proposal) (August 1- October 14,2016)

Metabiota expects that the project team leaders representing **EPHI and NAHDIC** wi work to develop and revise their abstracts as part of the the Grantsmanship workshop, and also expects workshop to begin collaborating with relevant members of their team towards white paper development during the workshop the the best extent possible. Following the workshop, the **EPHI-led and NAHDIC**-led teams will each submit their abstract to DTRA. The teams will then immediately resume white paper development, regardless of whether or not a white paper has been invited. Each team will designate a lead point-of-contact who will submit the white paper to the SMEs. The SMEs will review the submitted materials and provide specific recommendations for improvement to each POC via phone, email, or Skype. The POCs will be responsible for relaying this information to their team and coordinating the revisions process. Each team will make revisions to the material and the POC will resubmit it to the SMEs for a second review. This process will continue until one of the following occurs: the SMEs deem the white papers are sufficiently well-developed for submission; the end of the project period of performance; or, assuming a white paper has been invited, the white paper submission deadline. Similarly, upon completion of the white papers, the teams will begin full proposal development with review of the technical volumes and budgets by the SMEs.

The project teams will submit the white papers to DTRA independent of SME assistance. Following submission, the project teams will initiate development of full proposals. SMEs will provide guidance and direction to the project POCs and review any draft materials submitted to them. The SMEs will continue to support the project teams in proposal development until the proposal is deemed ready for submission or the end of the Period of Performance is reached.

Deliverables:

- Deliverable 1: Abstract submitted by **EPHI-led and NAHDIC-led** teams, appropriate to Thrust Area 6 of the DTRA FRCWMD-BAA.
- Deliverable 2: White paper (including any requested clarifications and/or revisions) submitted by **EPHI-led and NAHDIC-led** teams appropriate for submission to grants.gov and Thrust Area 6 of the DTRA FRCWMD-BAA, if requested following successful review of the submitted abstract.
- Deliverable 3: Two full proposals (total) developed by **EPHI-led and NAHDIC-led** teams, respectively, appropriate for submission to Thrust Area 6 of the **DTRA** BAA.

Phase 4 – Project Closeout and White Paper Response Assistance (October 17- November 15, 2016)

Subphase 4.1 White Paper Response Assistance (October 17- November 15, 2016)
Following submission of respective white papers, provide final review and post-workshop support to participants as needed. The **EPHI-led and NAHDIC-led** teams may receive comments or requests for clarification from DTRA. If the teams receive this feedback within the project PoP, they will submit requests for assistance to the SMEs. After reviewing the feedback, the SMEs will provide the POCs with specific recommendations for addressing the comments. The POCs will coordinate the revisions to the white papers to address the comments and requests for clarification and submit a new draft to the SMEs. Following review, the SMEs will provide final comments or direction as necessary to the POCs.

Subphase 4.2 Final Report Submission (October 17- November 15, 2016)
Concurrently, and as part of closeout procedures, the Metabiota project team will write a final report detailing all actions taken throughout project implementation, lessons learned, and recommended next steps for submission to DTRA CBEP.

Risk Management.
In order to maintain our course of action and guarantee project implementation that will reduce regional risk and forward DTRA CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed in the Risk Management Matrix shown below. Identifying and acknowledging the risks associated with not implementing this activity, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix:

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
				Cost		
Subject Matter Expert Subcontracting	Due to limited insight into participant profiles and research activities, additional costs and time-delays may occur to identify and coordinate the most appropriate SME coordination, which may impact the ability to conduct this activity in full.	3	3	Medium	Metabiota has preselected SMEs for this effort, and contingent understanding of the participants' work, Metabiota will evaluate the selected SMEs for inclusion. As needed, Metabiota will attempt to reach a basic agreement with SMEs as soon as possible and issue authorization to proceed while subcontracts are being put into place	(b)(4); (b)(6)
Participant Identification and Coordination	Due to Metabiota's limited insight regarding the participants of the Writing and Grantsmanship Workshop, and their respective academic and logistical capacities (i.e. possession of laptops, research tools, previously cited materials, quality of data sources, etc.), it is possible that the quality of improvement for their manuscripts may be hindered.	4	3	Medium-High	Metabiota will ensure that effective coordination and communication with Ethiopian Stakeholders is employed to ensure that a maximal amount of information about the participants, their research, and their respective capacities is garnered before the workshop. This will allow for the controlling of mentioned confounders and a managed increase in efficiency with regard to review and operation.	
Programmatic labor hours	Following guidance from CBEP POC's, the current budget for Metabiota Program Management and Project Coordination hours are extremely low. As a result, and based on previous experience implementing overseas activities, there is significant risk for budget overrun.	5	5	(b)(4); (b)(6)	Metabiota recommends an increase in overall labor hours based on the described tasks and previous performance on similar AEP programmatic work	Low
Technical labor hours	Technical labor hours may be insufficient for the continued mentorship of Ethiopian stakeholders and for the development of workshop materials if they do not exist.	4	5	Medium-High	Metabiota recommends an increase in overall labor hours based on the described tasks and previous performance on similar AEP programmatic work	Low
				Schedule		
Project Coordination	Technical Writing and Grantsmanship Workshop, Ethiopia involves a significant number of stakeholders and participants representing various organizations, putting implementation activities at risk of delay or cancellation.	5	2	Medium	Establish and hold regular calls with all stakeholders and identify multiple possible implementation dates. Identify critical components as early as possible and redirect efforts when it becomes clear that targeted implementation dates will not be achievable.	(b)(4); (b)(6)

(b)(4); (b)(6)

Project Timeline	The current project timeline suggests workshop implementation between the dates of July 25-29. Implementation on this date will require near immediate concensus among project stakeholders to support the submission of a training event plan 60 days prior to implementation.	3	4	Medium-High	Metabiota will seek out and establish communciaiton with Ethiopian stakeholders immediately upon approval of the technical direction, and ensure that consensus on workshop implementation dates are established as expediently as possible.
			Performance/Quality		
Political Instability	Sporadic violence near borders and occasionally in the capital may lead to risks of being unable to safely complete in-country work.	2	5	Medium	Coordinate closely with DTRA and AFRICOM to be aware of any potential risks to performers, and target a location for the workshop well away from risky areas.
Proposal Development	Direction has been given to facilitate the submission of two full proposals developed by EPHI-led and NAHDIC-led teams appropriate for submission to Thrust Area 6 of the DTRA BAA; however, a lack of clarity exists regarding proposed concepts and contributors they may pose a risk to overall submission quality.	3	4	Medium-High	Metabiota will request for all relevant documentation and information from DTRA CBEP immediately upon approval of this technical direction and will work to ensure that concepts and all proposal components are developed to the highest quality possible prior to submission so far as it can.

9b. BUDGET (USE EMBEDDED TABS FOR BUDGET BREAKDOWN):

CLIN	DESCRIPTION	TOTAL
0002	LABOR	$[illegible]
0003	MATERIALS	$[illegible]
0004	ODCs	$[illegible]
0005	TRAVEL	$[illegible]
TOTAL		$[illegible]

9c. TD SOLUTION BASIS OF ESTIMATE DESCRIPTION (NOT TO EXCEED [illegible] PAGES)

Period of Performance

The period of performance for this effort is **May 2, 2016 – May 15, 2016**.

Labor

Costs for direct labor to support this activity is required for the following personnel

All phases

Metabiota Program Manager (b)(6) will provide oversight of the planning and execution of all program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity. The PM will do so by participating in proposal development and maintaining oversight of stakeholder and subcontractor coordination and project execution, including anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The PM will ensure Metabiota and other DTRA CBEP subcontractors meet all project requirements and deliverables while ensuring the program remains within scope, budget, and timeline. The PM will lead communication with DTRA CBEP for this activity.

As some of our Subject Matter Experts will be independent consultants, the Metabiota PM will additionally oversee and ensure that all project personnel adhere to DoD and DTRA CBEP standard operating procedures and operational requirements to include overseeing the development of Statements of Work (SOW) and appropriate budgets under the T&M mechanism, the acquisition of Defense Base Act insurance, and any other requirements which may be applicable to the work. The Metabiota PM will provide management oversight of the project team, including independent consultants throughout the span of the project.

The Metabiota PM will oversee the coordination between the Ethiopian stakeholders and the workshop planning team and will ensure the project team captures and keeps in account stakeholder input regarding key information relevant to the planning of the workshop. The PM will manage any logistic concerns that may arise during the course of the workshop, allowing the SMEs to maintain focus the workshop without interruption. The PM will restrict his time expenditure in country to an operational minimum while ensuring congruency in programmatic support.

Metabiota has budgeted a total 98 hours to the Metabiota PM For the activities described above. General programmatic oversight will require at minimum a 5% level of effort over the course of the 11 weeks to support phase 1 activities. During this time, the PM will be required to lead all weekly communications. The PM will also provide oversight to the PC and project SMEs, in an effort that is estimated to require at least 2 hours per week for a total of 22 during the phase 1. Phase 2 will include workshop implementation activities and will require the PM to commit at least a 50% level of effort during a 1 week period to ensure successful workshop implementation and for the provision of programmatic and logistical support to Project SMEs tasked with leading the workshop for a total of 20 hours . Phase 3 will task the PM to continue leading all stakeholder communications and to provide high level support and oversight to the PC and SMEs throughout post workshop activities. The PM will need to commit to a ~ 7.5% level of effort over 13 weeks for a total of 36 hours. Phase 4 will task the PM to continue leading all stakeholder communications and to provide support and oversight to the PC and SMEs throughout submission of response activities and final report development. The PM will lead the development of the final report with support from the PC and SMEs and will need to commit to at least a 10% level of effort over 4 weeks for a total of 12 hours.

Metabiota Project Coordinator (b)(6) will act as Project Coordinator (billed as Research and Data Analyst) throughout the planning and execution of project objectives, as well as participating in proposal development. The Metabiota PC will provide coordination support towards the planning and execution of DTRA CBEP objectives towards the completion of all project goals. The PC will do so by participating in proposal development coordination and by leading stakeholder and subcontractor coordination and project execution, including assisting the PM in anticipating, managing, and communicating projects risks and recommended mitigation strategies to the funder. The Metabiota PC will be responsible for setting meetings with team members, periodic reporting outreach to all Ethiopian stakeholders, and for recording meeting minutes during all communications. The PC will be responsible for developing all project CDRLs and for working with the PM to ensure their timely submission within the proposed project timeline. The PC will also be responsible for developing and maintaining all living contract documents including schedules, charters, work plans following stakeholder and client meetings.

Metabiota has budgeted a total 116 hours to the Metabiota PC For the activities described above. General programmatic coordination will require at minimum a 10% level of effort over the course of the 11 weeks to support phase 1 activities. During this time, the PC will be required to participate in and record all weekly communications and provide general support to the PM and project SMEs, an effort that is estimated to require at least 4 hours per week for a total of 44 during phase 1. Phase 2 will include workshop implementation activities and will require the PC to remotely support workshop implementation at a 10% level of effort during a 1-week period to ensure successful workshop implementation and transparent reporting to DTRA CBEP representation. Phase 3 will task the PC to continue participating in and recording all stakeholder communications and to provide support PM and SMEs throughout post workshop activities. The PC will need to commit to a ~10% level of effort over 13 weeks for a total of 48 hours. Phase 4 will task the PC to continue participating in and recording all stakeholder communications and to provide support to the PM and SMEs throughout submission response activities and final report development. The PC will need to commit to at least a 10% level of effort over 4 weeks for a total of 12 hours.

Subject Matter Expert I (2 total): The SME Is will be tasked with providing workshop materials, workshop participation, and mentoring of workshop participants following

workshop conclusion. During phase 1 the SMEs will review the workshop materials to make any necessary updates and ensure the materials' relevance to the Ethiopian scientists. It is estimated that the SMEs will need to develop up to 25% original workshop material to supplement existing workshop materials. The hours necessary for this development were estimated using a ratio of 4 hours of development for each hour of contact time

During phase 2 the SMEs will deliver lectures on topics relevant to grant writing and submission, and facilitate small group work based on this content. Phase 3 will commence following workshop completion. During this phase, the SMEs will provide remote support to the POCs for the EPHI and NAHDIC teams in their development of an abstract and white paper suitable for submission to DTRA BAA Thrust Area 6. Upon receipt from the POCs, the SMEs will review the drafts of these documents and provide feedback via telephone, email or skype. During phase 4, following submission of white papers by the EPHI-led and NAHDIC-led teams, the SMEs will provide further assistance to the POCs in responding to any comments or revisions requested by DTRA CBEP.

Metabiota has budgeted a total of 384 hours to the Metabiota SMEs for the activities described above. Project coordination and materials development activities during this phase are estimated to require 46 hours per SME over the course of 15 weeks for a total of 92 hours. The SMEs will be required to participate in regular communication with and provide general support to the PM during phase 1 activities. Phase 2 will include workshop implementation activities and will require the SMEs to be available in country at a 100% level of effort during a 1-week period to ensure successful workshop implementation and transparent reporting to the PM. The SMEs will be required to travel to Ethiopia from the United States for this phase and will spend a 7 full days at a 100% level of effort each. Thus a total of 56 hours per SME will be required for Phase 2. Phase 3 will task the SMEs to continue participating in relevant stakeholder communications and to provide SME support throughout post workshop activities. The SMEs will need to commit no less than 70 hours total over 10 weeks each for a total of 140 hours. Phase 4 will task the SMEs to continue participating in relevant stakeholder communications and to provide support throughout submission response activities. The SMEs will need to commit to at least 5 hours per week over 4 weeks for a total of 20 hours each.

Materials
We have budgeted for an effort based international communications capacity for our project team while they are in country implementing the workshop. The costs budgeted here reflect activating a moderate calling plan to support the efforts of the program manager and subject matter experts.

Other Direct Costs
Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for all staff for the period of performance for this engagement.

Independent Consulting Agreements
Consulting agreements will be issued to SMEs and/or their home organizations as needed for the labor necessary for this effort, as well as any materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel
Support is requested for two SMEs to travel to Addis Ababa to implement the writing workshop. The travel budget represents the estimated amount required; travel on the AEP contract is cost reimbursable. Metabiota expects to leverage other requirements for travel in order to have the PM in-country for the grantsmanship workshop at no additional cost.

Our travel budget assumes the workshop will be held on 5 consecutive days. If, through discussion with the Ethiopian stakeholders, and alternative schedule is created or an alternative location is desired, travel costs may be impacted accordingly.

10. FUNDING AUTHORIZED THIS TD REV:

CLIN	COST CODE	COST	POP START	POP END
1002	LABOR	$ 71,092.60		
1003	MATERIALS	$ 1,579.05		
1004	ODCs	$ 647.16		
1005	TRAVEL	$ 13,639.00		
	TOTAL	**$ 86,957.81**		

COMMENTS (OPTIONAL):

11a. FUNDS AUTHORIZED FOR THIS TD REV:

$ **$86,957.81**

11b. FUNDS AUTHORIZED INCLUSIVE OF ALL REV:

$ **$86,957.81**

12a. CURRENT PERIOD OF PERFORMANCE

2- May-2016- 15-May-2016

12b TD REV PERIOD OF PERFORMANCE

2-May-2016 – 15-May-2016

13. CONTRACTOR SIGNATURE AND DATE

Signature:_____

Date:_____

14. REGION

AFRICOM/ Ethiopia

15. TECHNICAL POINTS OF CONTACT

Ethiopia Country Manager:

(b)(6)

AFRICOM Science Manager

(b)(6)

16. CONTRACTING OFFICER REPRESENTATIVE APPROVAL

(b)(6)

X

Lt C (b)(6)

COR/ J3CTB Program Manager

Instructions: Government to complete Blocks 1-8, 10-12, 14-16. Contractor to complete Blocks 9 and 13 only.

1. Contract Number
2. Contractor – Full Company Name
3. Technical Directive Number
4. Technical Directive Title
5. Total Estimated Technical Directive - Hours and Dollars
6. Contracting Officer Representative – Contact details
7. Contractor Point of Contact – Details
8. Description of the Technical Directive – Government Provided
9. Solution:
    a. Proposed Solution: Contractor's proposed solution (including approach, schedule, and risk analysis) for TD. Not to exceed 3 pages.
    b. Budget: Contractor enter proposed quantity(ies) for TD completion.
    c. Technical Directive Solution Basis of Estimate – Description: Contractor complete the BOE for proposed solution to TD. Not to exceed 3 pages.
10. Funding Authorized this TD: Identifies information for billing purposes
11. Funds Authorized
    a. Funds Authorized for this TD Revision Exclusively
    b. Funds Authorized inclusive of all Revisions, Cummulative Total
12. Period of Performance
    a. Current
    b. TD Rev POP
13. Contractor: Sign & Date
14. Region for Technical Directive
15. Technical Points of Contact
16. Contracting Officer Representative Approval: Sign & Date

(b)(6)
Deputy Program Director - AEP
Metabiota, Inc.
email: (b)(6)
Mobile:
Skype

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On 5/4/16, 3:13 PM (b)(6)
< Caution-mailto

(b)(6)

There are some comments/clarifications regarding project coordination, material development and labor.

Block 9a:

(1) Under Key Assumption #9 - We agree with the assumption. Recommend explicitly telling the participants to bring their laptop computers to the workshop.

* Understood and appreciated, language has been added and highlighted in yellow within section 9a., under Phase1, Subphase 1.3 of the technical response specifying our approach to informing participants of the need to bring laptop computers to the workshop.

(2) Under Phase 1 - Project Coordination and Workshop Preparation; sub-phase 2.2 - Workshop Materials Development: Please plan accordingly to accommodate DTRA PAO approval process, which takes about 3 weeks. This phase is scheduled for one month and PAO approval might take most of the allotted time. Recommend allowing 3 weeks for PAO approval.

* Metabiota has specified within the technical response that adaptation of training materials will occur during Phase 1, Sub-phase 1.2. This phase is now set to take place between the dates of May 9 – June 10, 2016. Metabiota will internally review all adapted materials before submitting them for PAO approval at the end of this phase to ensure ample time for this process before the scheduled start of the writing workshop now set for implementation between July 25-29 2016. Changes to schedule have been made and highlighted in yellow within section 9a. for phases 1 through 3, and for sub-phases 1.1 through 1.3.

(3) Under Phase 1 - Project Coordination and Workshop Preparation; sub-phase 2.3 - Workshop Implementation Preparation: Recommend reducing the time for this phase. Starting the workshop on August 15, puts development of full proposals at risk. While recognizing that preparation takes time, we believe the timeline can be compressed.

* Our original approach to this phase was constrained by both the Training Event Plan (TEP) CDRL due 60 days prior to training implementation, and the need for PAO approval post materials development (which we estimated to take 60 days at the time of original submission).
* By reducing the time expected for PAO approval (though we have budgeted 6 weeks against the recommended 3 to control for stakeholder coordination (respective to TEP development) and potential materials development challenges) we have been changed workshop implementation (phase 2) within the technical response to the week of July 25-29. This change will give us additional time post workshop to focus effort more consistently on proposal development. All changes to schedule have been highlighted in yellow within the technical response.
* This change does however increase risk to schedule as it requires near immediate consensus by stakeholders

on a training date/location. This risk has been amended and highlighted within the risk matrix.

**Please note: The sub-phases 2.1, 2.2 and 2.3 under Phase 1 labeling could be confusing. Recommend re-labeling to reflect 1.1, 1.2 and 1.3 for completeness and to reduce confusion.

* This has been rectified. All changes highlighted. Apologies for any confusion.

(4) Under Phase 3 - BAA Materials Development (Abstract, White Paper and Full Proposal) - An assumption is made that all workshop participants on EPHI-led and NAHDIC-led teams will be involved in proposal development. For the NAHDIC-led team, the whole team may not be involved in proposal development. We have stipulated to the NAHDIC POC that the leader of the proposal development team must be someone who participated in the workshop, but we understand that not all of the workshop attendees may be available for proposal development. There will be one lead/PI from each organization that will be a main POC on developing grant materials (1 abstract, 1 white paper and 1 full proposal per team).

* This clarification is noted and appreciated. We have updated and highlighted the narrative within phase 3 of the technical response. This change should not cause any increase in project risk. Metabiota understand this team may not be composed solely of workshop participants.

(5) Under Deliverable 3 - The proposal states that they will develop full proposals "if time permits". Two full proposals shall be produced, as listed under deliverables in TD. Recommend, to meet this obligation, try to move workshop closer and/or start developing Full Proposals right after developing White Papers.

* The technical direction has been updated to reflect this deliverable and Metabiota's obligation to develop full proposals. Deliverable 3 under phase 3 has been changed to reflect removal of the phase "if time permits" and is highlighted in yellow
* We have detailed associated risk within the matrix, and as a mitigation strategy, will need to begin proposal development immediately following white paper submission and before receiving feedback from DTRA as a schedule risk mitigation strategy. Metabiota will ensure two full proposals are completed in the period of performance, however based on factors not necessarily within our control, a risk to proposal quality remains and has been amended to the risk matrix.

Block 9c:

(6) Under Labor - In addition to Project Manager (PM), a Project Coordinator (PC) has been proposed to coordinate execution of the TD. Please clarify your approach on ensuring there is no duplication of efforts between PM and PC. It's somewhat unclear on distinguishing between the two roles. The proposed solution calls for 110 hours for PM and 124 hours for PC. Most of these hours are planned for a longer that desired pre-coordination phase (15 weeks).

* In general, Metabiota sees this project as having defined need for contributions from both a Manager and Coordinator. The inclusion of a project coordinator and an increase to the suggested level of effort for the PM will significantly reduce project risks and foster a higher quality of project output, and will provide DRTA CBEP with greater transparency. This delineation of responsibilities has been more clearly outlined and highlighted in yellow within the basis of estimate for both the PM and PC, and the hours within the 'labor breakout' tab have been adjusted accordingly. The overall number of hours has changed with respect to schedule and process, and PM hours will now be limited to 98 (reflective of a planned decrease in length during phase 1, and a planned increase in length, but decrease in LOE for phase 3), while PC hours will now be limited to 116 (reflective of a planned decrease in time during phase 1, and a planned increase in time, for phase 3. PC LOE is requested to remain at 10% throughout all phases).

Please advise if these changes impact your approach and/or hours proposed.

Thanks,

(b)(6)

Program Manager, Academic Engagement Partnership (AEP) Program

J3CTB/Cooperative Biological Engagement Program
8725 John J. Kingman Rd
Ft Belvoir, VA 22060
W: (b)(6)
En

-----Original Message-----
From: (b)(6)
Sent: Friday, April 29, 2016 10:32 PM
To: (b)(6)
Cc:
CTR (U
J3-7 (U
Subject: [Non-DoD Source] Re: TD-025: Ethiopia Technical Writing & Grantsmanship/Workshop

Good Evening LCOL (b)(6), Metabiota is pleased to submit the following response in regards to the below TD request. We are available at your convenience to provide any modifications or clarifications needed. Hope everyone has a wonderful weekend.

V/R,

(b)(6)
Director, AEP Program
Metabiota, Inc.
Office: (b)(6)
E-mail:

On 4/27/16, 11:58 AM, (b)(6) D Lt Col USAF DTRA J3-7 (US)" <(b)(6) wrote:

Please find attached, TD 025 for the development of a writing workshop for Ethiopian collaborators from the Ethiopian Public Health Institute (EPHI) and National Animal Health Diagnostic and Investigation Center (NAHDIC). Response to TD is requested by COB 29 April 2016, for a PoP start of 2 May 2016.

Please feel free to communicate directly with the Technical POCs identified in box 15 of the TD (also Cc'd), if you have any technical questions.

Thanks,

(b)(6)
Program Manager, Academic Engagement Partnership (AEP) Program
J3CTB/Cooperative Biological Engagement Program

8725 John J. Kingman Rd
Ft Belvoir, VA 22060
W(b)(6)
Er

From: (b)(6)
To:
Cc:

Subject: Technical Direction 006 for Nipah Virus Research Project
Date: Friday, June 19, 2015 4:32:52 PM
Attachments: Metabiota_AEP_Budget_TD-006_Nipah_Research_Activity_Project_Philippines_150619.xlsx
Metabiota_AEP_Technical Proposal_TD006_Nipah Research Activity Project_Philippines_150619.pdf
Metabiota_AEP_Transmittal Letter_TD 006 Nipah Research Activity Project_Philippines_150619.pdf

Good Afternoon,

Attached, please find Metabiota's Budget and Technical Proposal in response to the subject technical directive sent by DTRA on June 3, 2015.

Please feel free to contact me with questions or comments.

Thank you,

(b)(6)
Program Operations Manager
AEP Contracts Administrator
(b)(6)

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OPTION YEAR - SOW Section 4.3, Task 3 Nipah Research Activity Project - Philippines

METABIOTA

CONTRACT NAME: **Academic Engagement Partnership Program**
CONTRACT NUMBER: HDTRA1-14-C-0104
DATE PREPARED: June 19, 2015
PERIOD OF PERFORMANCE: June 1 2015 - September 30 2016
PROJECT: Nipah Research Activity Project - Philippines

oaded based on rate card).	LOE Hours	Amount
Program Manager	(b)(4); (b)(6)	
CLIN 1002 - RDA		
CLIN 1002 - SME I		
CLIN 1002 - SME II		
CLIN 1002 - SME III		
CLIN 1002 - RC		
Total Labor Costs (fully loaded):		
OTHER DIRECT COSTS *(fully loaded):*		
CLIN 1003 Materials		$ 192,895.70
CLIN 1004 ODCs		$ 8,585.64
CLIN 1005 Travel		$ 89,301.10
Total Other Direct Costs (fully loaded):		**$290,782**
Total:		**$874,846**

LABOR ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 19-Jun-15
Project Nipah Research Activity Project - Philippines
Period of Performance: June 1 2015- September 30 2016

CLIN No.	Labor Description	Cost	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	$ (b)(4); (b)(6)	654	(b)(4); (b)(6)
CLIN 1002	RDA	$	4,712	
CLIN 1002	SME I	$	170	
CLIN 1002	SME II	$	131	
CLIN 1002	SME III	$	220	
CLIN 1002	RC	$	123	
			6,010	

MATERIALS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 19-Jun-15
Project Nipah Research Activity Project - Philippines
Period of Performance: June 1 2015- September 30 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1003	Printing and copying costs for materials	$ 1,350.00	1	1,350
CLIN 1003	Field Supplies and Dissecting Equipment	$ 20,250.00	1	20,250
CLIN 1003	Extraction Kits and PCR Reagents	$ 33,125.00	1	33,125
CLIN 1003	ELISA Plates and Luminex Reagents	$ 27,000.00	1	27,000
CLIN 1003	Sanger Sequencing	$ 13,500.00	1	13,500
CLIN 1003	NGS Sequencing & Library Preparation Costs	$ 20,250.00	1	20,250
CLIN 1003	Publications	$ 4,800.00	1	4,800
CLIN 1003	Communications	$ 4,500.00	1	4,500
CLIN 1003	Office Materials and Supplies	$ 150.00	16.5	2,475
CLIN 1003	Cloud based Document Management Licenses	$ 180.00	16.5	2,970
CLIN 1003	Video conferencing and SMART board licensing and communications	$ 255.00	16.5	4,208
CLIN 1003	Internet	$ 95.00	16.5	1,568
CLIN 1003	RITM Trapping Services - 8 mons	$ 1,533.00	4	6,132
CLIN 1003	RITM Research Services - 16.5 months	$ 13,701.00	3	41,112
		Sub-Total		183,239
		SM	(b)(4); (b)(6)	
		Fully Loaded Amnt:		(b)(4); (b)(6)

OTHER DIRECT COSTS ESTIMATE

Contract Name: **Academic Engagement Partnership Program**
Contract Number: HDTRA1-14-C-0104
Date Prepared: 19-Jun-15
Project Nipah Research Activity Project - Philippines
Period of Performance: June 1 2015- September 30 2016

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
CLIN 1004	SOS Insurance	$ 830.00	2	1,660
CLIN 1004	DBA Insurance	$ 4,915.00	1	4,915
		Sub-Total		6,575
			G&A (b)(4):(b)(6)	(b)(4):(b)(6)
			Fully Loaded Amnt:	

TRAVEL ESTIMATE COST

Contract Name: **Academic Engagement Partnership Program**

Contract Number: [illegible]

Date Prepared: [illegible]

Proposal: [illegible]

Period of Performance: [illegible]

	Domestic	International	International	International	International	International	International
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Metabiota's Technical and Cost Proposal

"DTRA/CBEP Nipah Research Activity Project- Philippines."

Technical Direction Number: TD-006
Contract Number: HDTRA1-14-C-0104
CAGE Code: (b)(4); (b)(6)
DUNS number:

Small US Business
Metabiota, Inc.



One Sutter Street, Suite 600 San Francisco, CA 94104

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Email

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Team Metabiota Overview

Metabiota, Inc. is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science, including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in (b)(countries and offices in San Francisco, Washington, D.C., China, Canada, and Sierra Leone.

Metabiota currently supports a number of Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. Metabiota's mission aligns well with CBEP and the entire Metabiota team is focused on supporting our U.S. Government (USG) Partners in reducing the risk of biological threats worldwide, and employs a collaborative and agile approach to biological risk reduction.

Metabiota has built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGOs) whose respective aims could impact CBEP objectives.

Project Overview

Introduction

Through AEP Technical Direction 006, DTRA CBEP Regional Leadership tasked Metabiota with assisting scientists from the Research Institute of Tropical Medicine (RITM) in the Philippines in executing a preliminary study on paramyxoviruses in support of biosurveillance activities across the Pacific Region. The study will take place over a 16.5-month period and will involve researchers and Subject Matter Experts (SMEs) from Metabiota, as well as key partners from Duke NUS and RITM to identify henipaviruses and potentially related strains circulating in Province Sultan Kudarat to accomplish the following objectives:

1. Determine the natural reservoir and host range for Nipah virus, other paramyxoviruses, and filoviruses in the Philippines
2. Enhance RITM capacity in next generation sequencing and analysis
3. Develop strain specific assays for the viruses detected during screening

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4. Generate full length genomes in part by using next generation sequencing platforms
5. Phylogenetic analysis of paramyxovirus and filovirus-positive samples
6. Develop long term surveillance capabilities and research engagements involving bats, human, and peridomestic species in the Philippines

Background

Bats are the only flying mammal (of the order Chiroptera), and are one of the most abundant, diverse vertebrates dispersed across all continents except Antarctica. They consist of more than 1100 species across 17 families (Nowak, 1994). Bats face the same threats as other mammals: habitat loss and hunting pressure. Bats host many noteworthy viral pathogens including filoviruses, coronaviruses, and paramyxoviruses, and are implicated as the sources of transferring these viruses to both humans and livestock. Understanding the ecology of reservoir-borne viruses is critical to the prevention of zoonotic epidemics and the global community's ability to implement preventative measures through biosurveillance initiatives that mitigate the threat of these viruses causing disease outbreaks on a pandemic scale.

The diversity of pathogens of potential public health importance discovered in or associated with bats has increased markedly. Yet the significance of these pathogens remains largely unknown. This lack of information on the basic biology of bat diseases in SE Asia is of great concern. The emergence of Ebola Reston virus in the Philippines demonstrates how; Emerging Infectious Diseases (EIDs) have no geographic borders, anthropogenic landscape changes can influence emergence, increased interactions between humans and bats lead to opportunities for transmission, and virus in reservoirs displaying no apparent illness can infect incidental hosts such as livestock and humans.

In addition, the discovery of the Nipah virus in the Philippines leads to many questions pertinent to public health. Nipah virus, a bat borne paramyxovirus that causes high morbidity and mortality to humans and livestock, was detected in 2014 in two villages in the southern islands of the Philippines (Province Sultan Kudarat). Human and horse deaths, in addition to neurologic disease in humans, prompted an investigation. Of the 17 patients studied, 41% had prepared or eaten horsemeat, the most likely transmission route. Surveillance detected neutralizing antibodies to henipaviruses in three patients. Deep sequencing detected a 71bp fragment that was closely related to Nipah virus sequences. Unfortunately, very little is known concerning the involvement of bats in the Philippines in henipavirus maintenance and transmission and requires further investigation. The unique aspects of the Philippines, being an archipelago with over 7,000 islands with exceptional bat biodiversity, severe habitat loss, human encroachment, and continued hunting and consumption of fruit bats, make it an optimal location to perform research into henipavirus and related strains that are circulating in this region.

Understanding

The Metabiota team understands that the U.S. Department of Defense (DoD) initiated CBEP through DTRA in order to: secure and consolidate select agents; enhance Biosafety and Biosecurity (BS&S) standards; and strengthen the USPACOM region's ability to detect,

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diagnose, survey, and report emerging and re-emerging diseases of international security concern and that CBEP accomplishes these objectives in accordance with the World Health Organization (WHO) International Health Regulations (IHR) and World Organization for Animal Health (OIE). The team further recognizes that to achieve its mission, CBEP works collaboratively with partner nations, USG agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health; promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner. Through the AEP Program, and implementation of this project, Metabiota aims to support the CBEP mission of reducing the potential impact of biological threats through enhanced biological surveillance, awareness of biological risks, and knowledge related to biological pathogens.

In support of achieving the CBEP mission, Metabiota intends to administer a high-value study that will support strategic CBEP objectives by increasing regional collaboration on topics critical to biological threat reduction, and enhancing the regional capacity to perform biosurveillance activities that reduce the threat of infectious disease events. The team's on-the-ground experience and expertise make us well positioned to support the implementation of this study in the USPACOM's area of responsibility.

Purpose

The purpose of this study is to provide scientific expertise and research support in conducting preliminary surveillance activities in Sultan Kudarat Province to determine the seroprevalance of henipavirus, and other related strains, in bats, as well as determining what animals may be exposed and the resulting potential threat of cross species transmission and human infection. The study will involve intensively sampling bats, specifically fruit bats, in the villages of Sultan Kudarat Province, where the 2014 Nipah virus outbreak occurred, and analysis of the collected samples and data to understand circulating genotypes and the potential for cross-species transmission. This study will support building host country capacity to detect, prevent and respond to infectious disease threats, as well as building biosurveillance networks and scientific collaborations across the region, further mitigating infectious disease threats and the potential for outbreaks.

To achieve this purpose, CBEP has identified the need for a study to determine the virus community of bat colonies in the Philippines, and if there is a risk of human infection due to cross species transmission and the animal-human interface existing in this region. Identifying the virus community in the colonies of bats is critical to understanding the risk posed in cultural practices involving the hunting and consumption of bats, as well as the treat created through cross species transmission, and the preventive measures that can be implemented to support the reduction of infectious disease threats circulating in this region.

This research will promote global health security and threat reduction by supporting fundamental research to decrease the threat of infectious diseases at the animal-human interface, as well as enhancing regional capability for pathogen research and surveillance. The study

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provides opportunities for research cooperation between U.S., regional, and host country scientists, contributing to a greater understanding of pathogen infection in humans and infectious disease surveillance. This will serve to enhance the host nation's capacity in disease surveillance and response, while adhering to international codes of security and safety to ultimately provide a mechanism for sustained engagement through ongoing surveillance and research activities.

To accomplish this purpose. DTRA CBEP, through AEP has engaged the Metabiota team and its cadre of Subject Matter Experts (SMEs) to support the study performed by the Research Institute for Tropical Medicine (RITM) in the Philippines in conjunction with Research Collaborators at Duke National University Singapore (NUS.)

Objectives

Through the implementation of the study on bat-borne virus transmission, facilitated by Metabiota, DTRA CBEP will be able to:

- Identify the reservoir and putative host range for Nipah or related viruses in the Philippines;
- Examine the seroprevalance of Nipah or related viruses in bats in the Philippines;
- Understand the risk factors for cross-species transmission, including which animals may be amplifying reservoirs;
- Improve molecular virus diagnostics and epidemiology study systems, to include enhancing RITM capacity in next generation sequencing and analysis;
- Generate full length genomes in part by using next generation sequencing platforms;
- Phylogenetic analysis of paramyxovirus and filovirus-positive samples;
- Develop strain specific assays for the viruses detected during screening;
- Support long-term surveillance in both wildlife and humans surrounding the use of bush meat in the Philippines;
- Support the development and implementation of biosafety and security measures to include best handling and laboratory practices supporting threat reduction;
- Support the development of disease reporting, surveillance and response systems regionally, thereby reducing global threat;
- Support regional scientists through capacity building efforts and scientific collaboration.

Threat Reduction Outcomes

The study will provide a measurable and achievable result in building scientific capacity in the region while promoting a global network of biosurveillance, detection and response, including the early detection of emergent threats.

Advancing research knowledge through the completion of relevant scientific studies is critical to capacity building efforts in host countries and supporting the early detection and response to emerging threats, as well as biosafety and security measures, thus safeguarding the world from infectious disease threats. Without completion of this study, the region is subject to the following identified risks:

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- Reduced regional biosurveillance capability and characterization of novel infectious disease outbreaks;
- Increased security threats due to practices potentially leading to disease transmission;
- Increased security threats due to improper handling, storage, and transport of pathogens of security concern;
- Decreased communication and scientific engagement among host-country scientists and the global scientific community, which can provide reach back support and capacity building to strengthen the host country's ability to detect and respond to disease threats;
- Reduced risk management capacity.

The completion of the study will mitigate the identified risk factors by:

- Improving and enhancing disease detection, reporting and response systems across the region;
- Decreasing security threats due to practices potentially leading to disease transmission;
- Implementing and improving biorisk management best practices and principles based on internationally acceptable guidelines and standards (enhancing the capacity to account for, safeguard, and secure pathogens of concern);
- Increasing biosafety measures in regional biosurveillance activities;
- Increasing scientific capabilities through research collaboration and fostering an environment of scientific partnership.

Risk Management

Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Logistical						
Costs to Exceed NTE	Realistic costs for implementing the study currently exceed NTE price.	4	4	**Med-High**	Metabiota will work to mitigate costs by choosing low-cost travel and procurement options.	Med
Materials Unavailable In Country	Materials and supplies that cannot be procured in country must be bought abroad and shipped through CLS, incurring extra cost, requiring extra lead time, and presenting further logistical challenges.	3	4	**Med-High**	Metabiota will work to purchase all materials/supplies possible in country, and will procure the rest from cost-effective sources to be shipped through CLS, or will have CLS procure and ship items according to approval.	(b)(4); (b)(6)
Team Coordination	Coordinating multiple teams from the US, Singapore, and Philippines presents logistical and cost challenges.	3	3	**Med-High**	Metabiota will work with in-country and international partners to handle logistical challenges as they arise.	

Extension of PoP	Research analysis timeframe will be extended to account for additional review requirements and adjusted timeframe to complete activities.	3	3	**Med-High**	Metabiota will work with collaborators to ensure deliverables are met in the allowable PoP and will coordinate with SMEs to maximize results on the project.	(b)(4); (b)(6)
Engagement of Local PI	The Lead Investigator at RITM is out of country for training activities through July. The RITM research team is concerned with beginning this engagement without him.	4	2	Med	Metabiota will work with DUKE NUS collaborators and scientists at RITM to set up agreements, logistical requirements and pre-coordination to support this activity in July, with a kickoff in August once he returns to the Philippines and can lead this effort.	
Location of Surveillance Sites	Sultan Kudarat Province is located in Southwestern Mindanao, a militarized, conflict zone. This may impede access to identified research sites in the region, as well as may require site relocation or additional training and security measures increasing costs and changing the scope.	4	5	(b)(4); (b)(6)	Local investigators will be used to conduct all sampling activities, as US personnel will not be granted access to sites. Additional training and security measures will be implemented, if necessary to ensure safety is maintained. Alternative sites and access to samples have been identified by the team and will be used, if necessary.	Med
Rainy Season	Manila's rainy season occurs from May - Nov with August being the wettest month often causing flooding and posing additional challenges to logistical implementation of sampling activities.	4	4	**Med-High**	Metabiota will work with RITM to shift sampling activities to drier months if needed and will look at targeting colonies in locations that will be most easily reached and less susceptible to severe rains and flooding.	Med
Field Sampling Logistical Requirements	Necessary shifts in sampling sites, due to weather or security concerns may result in unforeseen needs not identified in the project budget and technical requirements increasing costs.	4	3	**Med-High**	Metabiota will work with regional partners to identify needs up front and will implement best practices to ensure project is managed within scope and budget.	(b)(4); (b)(6)
Travel						
Program Startup Travel	The Philippines is a new area of operation, so travel to the region will be critical for oversight in the new program.	3	3	**Med-High**	Metabiota will work with in-country partners to secure the best rates for travel and logistics.	Med
Short Suspense Travel	Travel will need to begin in a relatively short period of time and several trips will be necessary to ensure study implementation, so this increases cost.	3	3	**Med-High**	Metabiota will start the travel logistics as soon as possible and will seek out the lowest feasible travel costs.	(b)(4); (b)(6)

Management Approach

Introduction

Metabiota will employ its existing organizational leadership to interface with the Regional Science Manager and Country Manager as needed to direct the operational and administrative support required, ensuring implementation of the Nipah Research Activity Project. Our Program Manager, [redacted], will oversee study implementation with the support of a project coordinator, travel coordinator, research and data analysts, SMEs and research collaborators, to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Project Team Structure

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the Program Manager, project coordinator, travel coordinator, research and data analyst, and a team of SMEs that will be tasked with specific assignments to support the development and implementation of the study based on their administrative and scientific expertise. Specifically, Metabiota will engage Duke NUS SMEs and RCs to oversee the technical implementation of this effort, and in direct support of the RITM researchers. RITM leadership will provide overall on-the-ground supervision, and will oversee their in-country team of field and laboratory research assistants that will conduct the day-to-day duties of the project. This team of experts will ensure the overall project management and tasks associated with the workshop are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.

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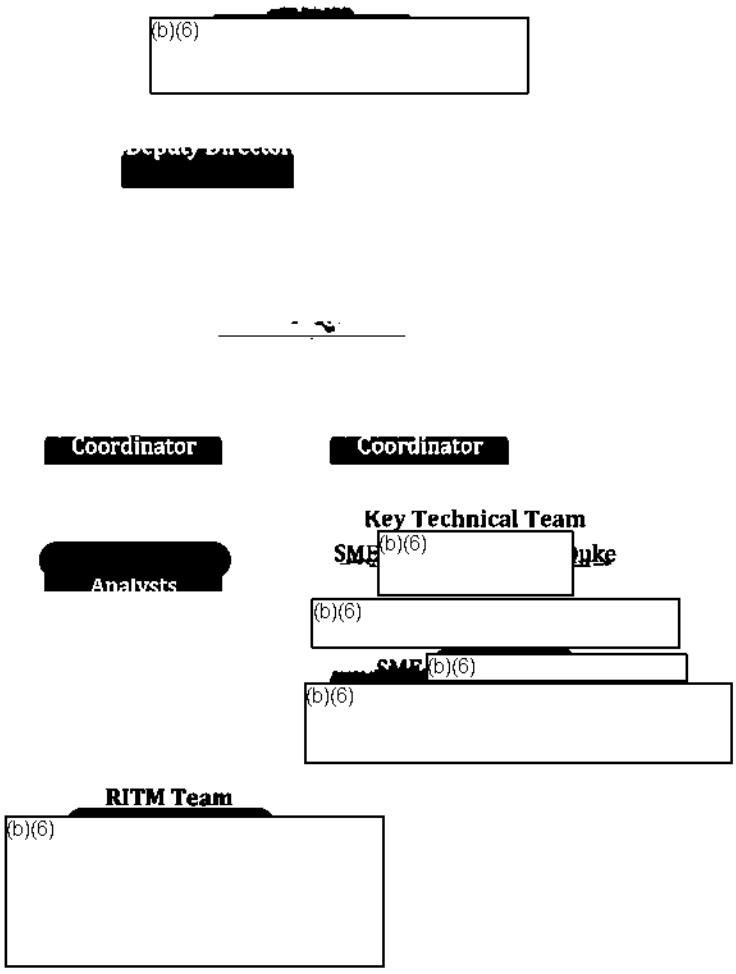

Initiation

Following guidance from CBEP USPACOM leadership, and working collaboratively with SMEs and RCs from Duke NUS, as well as local collaborators from RITM, Metabiota will initiate a project kickoff meeting held at Duke NUS in Singapore with all key collaborators. The kickoff meeting will involve discussions surrounding the objectives, ethical clearance, timeline, deliverables, staff coordination, sample storage, cold chain, field collection, sample screening, and data analysis required to implement this study. Duke NUS researchers will demonstrate their team's standard operating procedures and will provide study specific training for RITM collaborators on sample collection, to include collection of bat excreta, trapping and sampling of bats, and bat necropsy, as well as PCR-sequencing, study methodologies and data analysis. This kickoff meeting and the associated short training will ensure that study protocols are

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understood and can be implemented along with project review and logistical management of conducting the sampling and analysis throughout the remainder of the project. In addition, Metabiota will complete additional technical documents required by CBEP for study design, BS&S review ensuring biorisks associated with this research are mitigated through identification and implementation of enhanced safety and security measures. Prior to initiating any action, Metabiota's team and CBEP will secure a clear understanding of the objectives and mission of this undertaking, and ensure buy-in from all stakeholders. Following initiation of the study, to include implementation of all contractual requirements, ethical clearance, and appropriate agreements, Metabiota will move into the planning and execution phases of the study.

Planning and design

Completion of this task requires a 16.5-month study, to accommodate the contract PoP, and to maximize research time allowed for this effort, involving routine surveillance of identified bat colonies, and associated sample and data analysis conducted by RITM and Duke NUS. To facilitate this engagement Duke NUS and RITM and MoU will be signed between Duke NUS and RITM to support research collaboration and sample transfer. The surveillance will occur routinely in the Sultan Kudarat Province, of Mindanao, unless safety concerns and weather restrictions prohibit sampling in the area. If that is the case, colonies will be identified and sampled around Manila. RITM has previous experience working on bats and their related viruses and are very familiar with roosting sites where sampling can be conducted, with minimal disturbance to the colonies. In addition, aliquots of previously collected samples from in-country research collaborators working with RITM may be used to support this effort and provide additional data for testing, if field sampling events cannot be implemented as planned. All ethical clearance requirements to include, proper research agreements such as a MoU and MTA, will be implemented prior to any sampling or analysis-taking place.

The study-specific training provided to RITM researchers by Duke-NUS SMEs at the kickoff meeting in Singapore will facilitate the successful execution of the sampling events to include implementation of safe and secure sample collection, sample transport, and sample storage to ensure the highest likelihood of detecting viral RNA following study specific guidelines and protocol requirements. This will build on the CBEP sponsored training events hosted at Duke NUS in May 2015 and AAHL in April 2015, which included sample processing and training in both BSL2+ and BSL4 high containment facilities. Following sample collection over the intended sampling period, samples will be transported, stored and processed at RITM following safe handling practices and maintaining cold chain requirements. All samples will be stored in a virus inactivation buffer (RNALater, RNA Shield, or isogunadine), and extracted nucleic acids will be sent from RITM to Duke NUS for NGS library preparation and screening, following international regulations regarding sample shipments, and transfer of select agents following BS&S procedures. Remaining samples will be stored at RITM future research and enhanced virus characterization.

To accomplish the research goals of the study and due to the duration required to complete all activities, Metabiota intends to hold the kickoff meeting in August, following engagement of

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Duke NUS and RITM to secure study approval and implement the research. This will ensure strong coordination, oversight and implementation of the study in a collaborative framework. Following the kickoff meeting, Metabiota and Duke NUS project personnel will travel to Manila in support of BS&S activities, surveillance initiation, and research integration, ensuring strong regional ties and securing the project management efforts and logistical coordination required on the ground. For procurement and shipping of materials that cannot be purchased in country or by Duke NUS locally to support their efforts, Metabiota will utilize the services of CLS for logistical needs. In addition, CLS will be engaged for all travel requirements both in-country and internationally for those participating in the research activities, to include in-country surveillance as appropriate, and international travel for research collaborators that will be supporting this effort, but not charging time to the project.

Execution

The core project management team will maintain oversight and implementation of the study at all times and will ensure successful execution of the research, tracking implementation to ensure the study stays on schedule to meet the deliverable requirements within the study timeframe. The study will be managed according to the steps required to implement the research and will be course corrected as needed to ensure target end goals are reached. The following tools will be used to guarantee that the project schedule will be maintained:

Project Administration:

1. Weekly team meetings and conference calls will be held to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Team and will include the PM, Project Coordinator, RDA, SMEs and AEP leadership as needed based on the requirements and stage of implementation.
2. Routine calls and communication via email will be held with CBEP regional leadership, in-country collaborators, external SMEs and RCs, and Metabiota to provide routine status updates and ensure study implementation.

Project Reporting:

1. Weekly status reports will be provided by the PM to senior MB leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction as needed, to ensure that project goals are met.

Monitoring and Controlling

1. Routine risk assessment will be performed internally among the MB project management team to guarantee that the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with CBEP regional leadership to ensure that the project remains on track and is implemented according to existing standards.
3. Routine communication, to include monthly Skype meetings with the project teams and monthly reporting requirements implemented with teams in Singapore and the Philippines, will be maintained to ensure that the study is progressing and to

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troubleshoot any challenges faced in the field. Metabiota will maintain oversight and coordination of the study to ensure Duke NUS and RITM are maintaining technical, administrative and fiscal requirements to ensure successful execution of the research project.

Completion

Maintaining a focused project schedule with routine meetings and communication with CBEP regional leadership and partners, and allowing for continued coordination while maintaining targeted objectives, Metabiota will complete the research activity within the 16.5-month requirement. Dedicating experienced technical personnel to this project, as well as maintaining programmatic oversight will ensure that we meet the project objectives by May 2016. Metabiota believes that the experience and management it will bring to this project, in collaboration with regional SMEs, RCs, and CBEP, will guarantee success.

Technical Approach

Introduction

Metabiota will take every action possible to ensure the study can be completed in the assigned timeframe. We intend to implement the proposed research activities according to all necessary CBEP requirements by developing a detailed technical proposal (in historical CBEP terminology, the "Form A" plus associated documents like the Protocol Risk Assessment Tool, or PRAT) for review by the DTRA CBEP Science team prior to initiation of field activities. As this research does not propose procedures on animal subjects that inflict harm, Metabiota and partners will pursue an IACUC exemption status in accordance with US, Philippine and Singaporean regulations to ensure compliance protocols are met prior to implementation of research.

The content of the following technical proposal outlines the proposed activities which will be documented more fully in the finalized Form A. Metabiota welcomes all comments, questions, and requests for clarifications from DTRA CBEP and associated reviewers In addition, Metabiota will implement the proposed research activities according to CBEP requirements, to include development of a Form A research and work plan, to address additional research requirements, and ensuring the study can be implemented in the assigned timeframe, supporting solid scientific engagement within the region and resulting in risk mitigation and scientific collaboration to further develop and enhancement of biosafety and biosurveillance efforts on an international plane as we work to finalize project documentation.

This will be facilitated through the study implementation as follows: The identified colonies, specifically those of fruit bats, at either roosting or foraging sites, will be intensively sampled for the presence of known select agents that are naturally harbored in bats and that have caused mortality in humans. Previous studies monitoring bat colonies for virus shedding in their urine found there were distinct fluctuations of virus shedding. These viruses are of public health importance and our goal is to identify the natural reservoirs for these viruses, their distribution

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and understand the genetic diversity. Urine and fecal samples will be collected from underneath bat roosts using the required catchment supplies, and PPE for safe handling. Samples will be placed into lysis buffer/inactivation buffer, and processed in certified BSC II safety cabinets. Samples will be screened with PCR family-specific primers using next generation sequencing approaches to capture the maximum divergent virus lineages. This will promote knowledge on which viruses are circulating in the bats and when the peak shedding period is.

Field:
Colonies of fruit bats in the genus Pteropus or related pteropodids will be identified and urine and feces will be collected from them either bi-weekly or monthly. Plastic sheets will be placed underneath these colonies in the morning and individual urine samples and a pooled urine sample will be collected. Feces will also be collected. All samples will be stored in virus inactivation buffer (RNA Later, RNA Shield, Qiagen lysis buffer) and placed into a cold chain until brought back to RITM for storage at -80C and processing in BSC II safety cabinets. A maximum of fifty individual urine and fecal samples will be collected each trip, in addition to a pooled urine sample. Collectors will wear personal protective equipment, including N-95 masks, Tyvek suits, eye protection and gloves. Samples will be labeled with a unique identifier including the date and site of collection.

Laboratory:
Samples will be given a unique identification number and this will be tagged to the sample type and organism type so that there will be shared identification markers between data categories. This will enable researchers to maintain sample fidelity and ensure a known location for each original sample, extracted nucleic acid, and PCR product. All original samples will be kept in a secured, locked freezer, and sample information will only be made available to the project team members following appropriate in-country and ethical guidelines for sample storage and analysis. Biosafety and biosecurity will be maintained through the rigorous PPE used during collection, the disposal of the PPE, the placement of samples into lysis buffer/inactivation buffer, the processing of samples in certified BSC II cabinets, and the storage in locked freezers with access and location given only to certified staff.

RNA and DNA will be extracted from collected material (urine or feces) or from tissues (spleen, liver, lungs, and intestines) collected opportunistically from dead bats. Nucleic acid will be extracted using a QIAamp Viral RNA, QIAamp DNA Mini Kit, or an AllPrep DNA/RNA Mini Kit (Qiagen). These extractions will be enriched with either pathogen-specific biotinylated probes, sera, or by differential centrifugal spins. RNA will be chemically fractionated and double-stranded DNA will be synthesized. DNA will be pulled down by AMPure Agencourt beads and the DNA libraries will be constructed using a Clontech library construction kit or an Illumina Nextera or TruSeq sample preparation kit. Adaptors will be added to the libraries so samples can be multiplexed on a single run. Libraries will be analyzed for quality control purposes and these will be run on an Illumina MiSeq or Hiseq at the Duke-NUS Genome Science Center. Sequence contigs will be aligned to host genomes or the closest related

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vertebrate full genome and the matched sequences will be removed. Duke NUS researchers will de novo assemble the remaining sequences and use the BLAST or DIAMOND or KRAKEN algorithm to identify any virus elements. This NGS approach will aid in developing new specific primers for identified and newly discovered pathogens and improve the screening of samples using PCR and/or real time PCR as indicated above. In addition, to investigate the evolutionary genomics of selected pathogens of interest, as identified from the qPCR and serological surveys, the Duke NUS team will amplify multiple genes by Sanger sequencing using standard protocols.

Evolutionary dynamics analysis of pathogens:
Duke NUS will use a variety of analyses to determine the evolutionary dynamics of selected pathogens. Large-scale phylogenetic analyses will be conducted using maximum likelihood as implemented in RaxML, PhyML, or other programs as deemed appropriate. Phylogenetic reconstructions of genetic data will also be conducted with time-stamped sequence data using a relaxed-clock Bayesian Markov-chain Monte Carlo method as implemented in BEAST. This method allows for variable nucleotide substitution rates among lineages and also incorporates phylogenetic uncertainty by sampling phylogenies and parameter estimates in proportion to their posterior probability. For all analyses, an uncorrelated lognormal relaxed molecular clock will be used to accommodate variation in molecular evolutionary rate among lineages, the SRD06 codon position model, with a different rate of nucleotide substitution for the first plus second versus the third codon position, and the HKY85 substitution model then applied to these codon divisions. These particular parameters have proven generally robust in analysis of viral sequence data; however, their suitability will be assessed throughout the course of the project. The analyses will be conducted with a time-aware linear Bayesian skyride coalescent tree prior over the unknown tree space, with relatively uninformative priors on all model parameters. At least three independent analyses of 50-million generations will be performed and these analyses combined after the removal of an appropriate burn-in (10–20% of the samples in most cases), with 5,000 generations sampled from each run for a total of 15,000 trees and parameter estimates from which mean substitution rates, mean TMRCAs, Maximum Clade Credibility phylogenetic trees, and relative genetic diversity over time will be derived.

In addition, co-estimation of the temporal phylogeny (described above) will be conducted and ancestral state reconstruction of tip associated phenotypic traits, such as habitat, host species, and the age and sex of the animal will be completed. These traits are mapped to the phylogeny during the Bayesian tree search that allows for a statistical comparison of phenotype and genotype. This will allow Duke NUS researchers to test, for example, hypotheses about the distribution of of pathogens in different host species and habitats. If these analyses demonstrate significant asscoiation between observed penotypic trait and inferred evolutionary history, such as pathogens that were isolated from different subsets of the animal populations, such as a species restriction, teams may be able to identify potential molecular markers distinguishing these groups.

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Selection analysis will also be performed using DataMonkey and HYPHY. As an example, the single likelihood ancestor counting (SLAC) method, a codon-based approach as implemented in HYPHY will be used with a critical *p*-value of 0.05. Based on the most appropriate model of nucleotide substitution and a given tree topology, the SLAC method calculates a global dN/dS rate ratio (with 95% confidence intervals) and tests selection of variable codon sites based on the inference of the ancestral sequence. To determine if species selection was acting differentially on pathogens, dN/dS ratio estimates (with confidence intervals) will be calculated independently for each lineage.

This approach is geared towards achieving the following objectives:

- Determination of the natural reservoir and host range for Nipah virus in the Philippines;
- Serology of Nipah virus in bats;
- Description of the risk factors for cross species transmission and which animals may act as amplifying reservoirs to infect humans;

Implementation of this approach will result in:

- The determination of the specific criteria for molecular study for paramyxoviruses, specifically Nipah and Hendra virus utilizing isolates identification with CSIRO-validated methods and protocols for PCR;
- Phylogenetic analysis of paramyxoviruses (Nipah virus) and prevalent genotypes and relatedness to pathogenic variants will be determined;
- Control measures and biorisk assessment determination for the human activities regarding bat hunting and consumption of livestock that died from aberrant causes;
- Sample collection maintained at the RITM in Manila for future research and enhanced virus characterization supporting long-term research engagement and enhanced capacity building;
- Findings from the study will be used to produce policies that will minimize the exposure of bat borne viruses to livestock and how to minimize human exposure to bat excreta and urine;
- Enhanced biosurveillance capabilities to include training of researchers in the screening of bat diagnostic samples for virus surveillance, prevention and response;
- Regional collaboration and research engagement to include shipment of collected samples to Duke NUS for sequencing and analysis.

Communications Protocols

Metabiota will maintain open communications with international collaborators necessary for implementing the study, to include monthly project calls and routine email communication with the teams implementing and coordinating research activities. In addition, Metabiota will maintain routine communication with CBEP regional leadership to ensure they have full visibility on the project, status and process of execution.

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Phases of Technical Approach

Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the project and to provide overall feedback and reporting on the project route to success. Metabiota will ensure that all CBEP requirements are met in implementing the research project, to include additional BS&S safety review and implemented measures, and a site assessment of partner laboratories, as required. The following phases are required for this project:

Phase 1*: Refine the Technical Proposal to include development of a Form A, as required by CBEP and developing a work plan to address BS&S requirements.

Objective and Process: Meet with all project stakeholders to develop a Form A, as required, which will expand upon objectives and overarching technical approach described above. The technical work plan will also outline all necessary BS&S, as well as biorisk safeguards related to project implementation.

Deliverable: Project Form A, SOP Manual, finalized PRAT

*Phase 1 will be implemented following guidelines received from CBEP based on review and submission of this proposal and PRAT.

Phase 2: Hold a project kickoff meeting in Singapore with research and administrative teams.

Objective and Process: Metabiota will coordinate with Duke NUS and RITM to schedule and facilitate a project kickoff meeting outlining the objectives of the study, logistical coordination required toward implementation, review of protocols and on-site training for RITM researchers in preparation for sampling and implementation following study specific guidelines and to further mitigate risk posed during sampling and analysis.

Deliverable: Initiation of research activities, study-specific training on protocols and safe handling, and sampling techniques required for project execution.

Phase 3: Implement sampling of bat colonies at identified sites.

Objective and Process: Metabiota will work with Duke NUS and RITM to identify appropriate sites, and collect bat samples following study-specific and safety protocols. Samples will be collected by a team of 4 local ecologists and will be overseen by Duke NUS-trained researchers at RITM. All samples will be transported back to RITM for sample processing and analysis following safe handling and proper cold chain methods of transport.

Deliverable: Collected samples from bats will be transported back to RITM for further processing.

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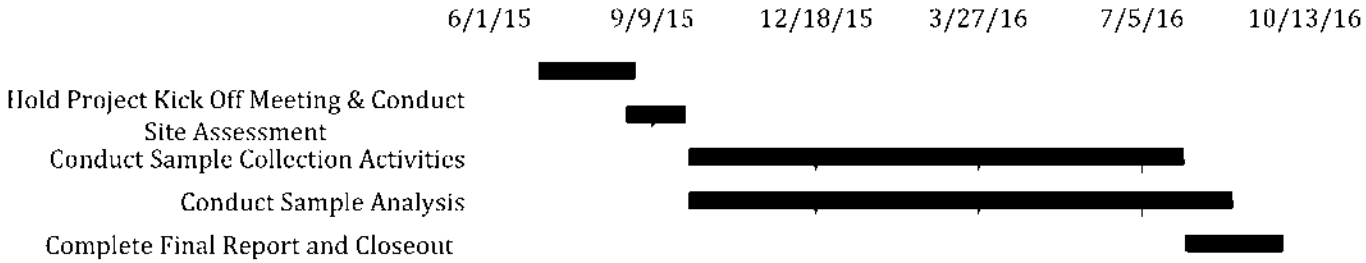
Phase 4: Sample screening and analysis.

Objective and Process: Screen samples using family-specific PCR primers at RITM, and ship aliquots to Duke NUS for deep sequencing approaches to capture the maximum divergent virus lineages to identify the virus strains circulating in the bats and possibilities for cross species and human infection.

Deliverable: Final report showing findings from the study that can be used to produce policies that will minimize the exposure of bat-borne viruses to livestock, as well as, during the collection and processing of bat catches as a food source, further reducing infectious disease threats.

To accomplish the above phases, Metabiota will work with Duke NUS and RITM to initiate and implement the 16.5-month research activity resulting in increased biosurveillance and security measures and a greater scientific understanding of the ecology of reservoir-borne viruses and their transmission to prevent zoonotic epidemics. This effort will support the global community's ability to implement preventative measures through biosurveillance, detection and response initiatives that mitigate the threat of these viruses causing disease outbreaks on a pandemic scale.

Timeline



Metabiota Key Personnel

(b)(6) Deputy Director

Mr (b)(6) is the Deputy Director of the Academic Engagement Partnership (AEP) Program and an Internationally Certified Emergency Manager (CEM®) with 14 years of experience leading, managing, and consulting on the full spectrum of Counter Weapons of Mass Destruction (CWMD) operations and Chemical/Biological Defense programs, as well as research and development in support of joint task forces, special operations forces, other government agencies, and the Department of Defense on the strategic, operations, and tactical level. (b)(6) is a driven leader with a proven track record of building value with partners through the identification of capability gaps, and the development and validation of effective solutions to the unique challenges faced when dealing with Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) threats. In addition, he is well versed at risk analysis and management, strategic planning, policy analysis and political engagement.

(b)(6) rogram Manager

Ms. (b)(6) is the Southeast Asia and Middle East Regional Program Manager of the Academic Engagement Partnership (AEP) Program with over eight years experience as a global health project/program manager, with a focus in SE Asia regional activities, having lived and worked in Cambodia for four years supporting DoD efforts in the region. Since joining Metabiota in 2010, she has managed DTRA CBEP engagements in West and Central Africa, to include Ebola response efforts, as well as spending three years as the Program Manager on projects funded by USAID, AFHSC GEIS, BEP, NIH, USAMRIID, and HJF spanning all regions of Metabiota engagement.

(b)(6) Research and Data Analyst

(b)(6) joined Metabiota in May after completing her MPA in International Management. She has five years experience working in international development, ranging in scope from a macro-level international development bank to micro-level grass roots development work. She worked for two and a half years in rural Mozambique doing public health project management with the US Peace Corps, local community health clinics, and international donors.

(b)(6) Subject Matter Expert

Ms. (b)(6) joined Metabiota in March, and will be engaged as a Subject Matter Expert for this effort supporting programmatic and logistical requirements. She joins the team following completion of an MBA with experience in project controls, coordination, strong writing and editing skills and will bring a business approach to the project, keeping track of all deliverables, scheduling, and facilitating coordination with both internal and external stakeholders. In addition to her business expertise, (b)(6) worked as a Data Technician and Interviewer for NIH/CDC sponsored studies, while completing her undergraduate work at Duke.

(b)(6) DVM, MPH - Subject Matter Expert

(b)(6) will join the project as a technical lead for BS&S and protocol review. He recently joined Metabiota from the CDC where he was assigned to the Outbreak Response and Prevention Branch (ORPB) as an Epidemic Intelligence Service Officer. He was the lead epidemiologist responsible for investigating multi-state foodborne, waterborne, and zoonotic enteric disease. He was also the Science Lead for the CDC Emergency Operations Center (EOC) team responsible for developing Ebola surveillance, preparedness and response protocols and training programs for unaffected African countries. (b)(6) previously worked for the Central Intelligence Agency as an Operations Officer in the National Clandestine Service.

(b)(6), Ph.D. – Subject Matter Expert

(b)(6) received his BS in Entomology and Zoology from the University of Wisconsin at Madison and his PhD in Parasitology with a focus on vector borne infectious diseases from Department of Tropical Medicine at Tulane University. He was the laboratory manager for a large mosquito control company and his doctoral research focused on the transmission cycles of arboviruses between birds and mosquitoes, especially regarding the relative contribution of these individuals towards viral amplification and dampening. As a Senior Research Fellow at Duke-NUS, his current work focuses on the ecology and evolution of novel and reemerging infectious diseases in different animal populations in Singapore. His aim is to understand how ecological and climatological variables impact the presence or absence of host, ectoparasites, and parasites in different habitats and if there is exchange or isolation of genes. His primary interest is on the viral ecology in the bats of Singapore. He also is the insectary manager and works on arbovirus dynamics in mosquitoes.

(b)(6) Ph.D. – Research Collaborator

(b)(6) s primary training was in ecology and evolution at The University of Melbourne. He obtained his PhD at The University of Hong Kong in 2003, where he also undertook his post-doctoral training in the Department of Microbiology (b)(6) is an authority on the evolutionary aspects of influenza virus biology, especially at the human-animal interface; he has provided seminal studies on H5N1 viruses as well as the pandemic viruses of 1918, 1957, 1968 and 2009. In 2007 (b)(6) was awarded a 7-year Career Development Award to continue his work on influenza as part of the NIAID/NIH Centers of Excellence for Influenza Research and Surveillance. His research in the Laboratory of Virus Evolution integrates ideas from a number of different fields including evolutionary genetics, virology, ecology, and infectious disease epidemiology. His research is directed at efforts to better understand viral disease ecosystems in Asia, specifically the animal-human interface, and to support rational implementation of disease control and intervention strategies. He conducts human and animal disease surveillance, isolates and characterizes pathogens (genetic and phenotypic), and generates hypotheses that to test in the lab. He is primarily interested in the roles played by mutation, natural selection, recombination/reassortment and host immune response on virus diversity within an individual, during transmission within a population and during inter-species transmission between hosts.

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Cost Management

The Metabiota team and all partners will maintain an acute focus on cost management to ensure that the study is delivered at a reasonable cost to the Government. Our team will provide full oversight of Duke NUS and RITM to ensure accurate and responsive financial reporting and will facilitate cost savings to the Government wherever possible. Metabiota will follow all procurement and travel regulations, ensuring the best price is secured while maintaining product integrity.

Budget Narrative

Period of Performance

The Period of Performance for this effort is June 1, 2015 to September 30, 2016.

Labor

Costs for direct labor to support this activity is required for the following personnel:

Metabiota Program Manager (b)(6), to oversee and execute the project to include management of deliverables, logistics, management of project personnel, tracking of project requirements, and implementation.

Metabiota Subject Matter Expert (SME), (b)(6), to provide overall expertise in project coordination in direct support of the program manager, to include tracking of deliverables, project schedules, sub-contracted SMEs, and local collaborators facilitating execution of the research project. She will assist in coordination of the research project until an identified SME can be hired to support coordination of this effort through the duration of the project at .5 FTE. (b)(6) will provide the necessary support to ensure project kickoff and execution and a smooth transition with the new hire to facilitate this engagement. Once they are onboard she will maintain visibility across the program and provide support at a lower LOE.

Metabiota Subject Matter Expert (SME (b)(6) will be engaged to provide expertise in BS&S review, protocol review, and scientific collaboration in support of technical execution of the project providing general oversight and engagement with collaborating research partners building local capacity and ensuring scientific integrity across the project.

Metabiota Research and Data Analysts, (b)(6) will be engaged to provide administrative, scientific and technical support to the project, integrating with both Duke NUS and RITM researchers to ensure scientific rigor and project support to facilitate this engagement is maintained throughout the duration of the study.

Duke NUS Research and Data Analyst will be engaged to support the laboratory testing and bat trapping in conjunction with the RITM team in supporting this research. This individual will

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assist in training RITM field teams, trapping bats, field collection and processing of samples and setting up diagnostic assays. They will perform basic laboratory techniques to include nucleic acid extraction, PCR, and basic sequence analysis.

RITM Supervisor, (b)(6) will maintain oversight of all implemented activities performed by RITM as the most senior researcher for this engagement. He will participate in project management and scientific implementation requirements and activities in conjunction with Metabiota personnel and Duke NUS RCs, to include facilitating in-country agreements and ethical approvals.

RITM Researchers, will provide project oversight and will participate in the collection of bat samples in conjunction with a team of local ecologists, transport the samples to RITM, and process and screen the samples for evidence of paramyxoviruses. In addition, they will prepare the laboratory and field reports and will process all data and analysis with support from senior researchers working on this project.

Additional costs for direct labor supporting the Deputy Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

In addition, labor costs are not being requested for RCs from Duke NUS, who will be providing research collaboration to support implementation of the research project including oversight of sampling, analysis, and data management.

Materials

Materials and supplies are required to support the implementation of research activities for this project. Materials include bat trapping equipment, field supplies for sample dissection and collection, and laboratory materials to include extraction kits, PCR reagents, Elisa plates, and sequencing costs required for technical implementation. CLS will procure and ship all identified supplies that will not be purchased in country, directly by Metabiota, or Duke NUS to support laboratory and field training operations at the laboratory in Singapore.

Publication costs are requested to support the submission of abstracts and other publications generated from this research activity. All documents will be pre-approved by the PAO.

Communication costs and video conferencing are requested to support routine communication with project personnel based internationally, as well as during international travel to India and Singapore in support of project implementation.

Internet and cloud-based document management costs are requested to support routine communications and management of project files in support of this engagement.

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RITM will provide research services to implement this study. Research services will include trapping, sample collection, transport and analysis at RITM, Manila.

RITM will provide ecology services to support bat trapping, handling and sampling. Services will be provided for a six-month period during which sample collection will be ongoing.

Other Direct Costs

Per contract guidelines Defense Base Act (DBA) insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for Duke NUS and RITM personnel for the period of performance for this engagement. In addition, DBA insurance will be secured for Metabiota personnel traveling to Singapore and the Philippines in support of this activity.

SOS Insurance is required for Metabiota personnel traveling to Singapore and Philippines to support this research activity, ensuring they are covered for emergency and evacuation services if necessary.

Subcontracts

A Subcontract will be issued to Duke NUS and RITM to support their labor requirements on this engagement, as well as in-country materials, required for support of this project. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested for Metabiota and RITM personnel to travel to Singapore to conduct the project kickoff meeting with Duke NUS at the start of this engagement to support protocol review, logistical requirements, contract implementation, project-specific training, ensuring the study is outlined and established with all teams prior to initiation of sampling and research activities.

Travel is also requested to support Metabiota and Duke NUS personnel to travel to Manila to support project implementation with RITM researchers to include laboratory and field oversight during the first events, with follow on by the Duke NUS researcher to ensure the study is moving forward smoothly and according to protocol. Travel support for Duke NUS personnel not requesting labor costs, will be covered by CLS. In addition, travel is required for RITM researchers to travel in country to implement sampling activities at the surveillance sites. This travel will be covered by CLS.

Travel is requested for (b)(6) to travel from California to DC in support of overall program management and meetings with AEP and CBEP regional leadership to effectively manage the research activity through in-person meetings and coordinated efforts.

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Conclusion

The diversity of pathogens of potential public health importance discovered in or associated with bats has increased markedly. Yet the significance of these pathogens remains largely unknown. This lack of information on the basic biology of bat diseases in SE Asia is of great concern. The emergence of Ebola Reston virus in the Philippines demonstrates how; EIDs have no geographic borders, anthropogenic landscape changes can influence emergence, increased interactions between humans and bats lead to opportunities for transmission, and virus in reservoirs displaying no apparent illness can infect incidental hosts such as livestock and humans. The detection of Nipah virus, during the 2014 outbreak, shows the need for increased biosurveillance, detection and response activities to support, address and prevent this potential emerging disease threat. and how critical this research is to building local capacity and regional scientific engagement to support risk mitigation through greater understanding of the disease landscape of the region.

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP PACOM in the implementation of the study. Metabiota will ensure, through strong project management and risk mitigation, that the research will be executed in an efficient and timely manner. delivering a top quality study designed to support enhanced biosurveillance and biosafety efforts in the region.

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METABIOTA

June 19, 2015,

Dr. (b)(6) Contracting Officers Representative J3CTB
Defense Threat Reduction Agency (DTRA)
8725 John J Kingman Road, #6201
Fort Belvoir, VA 22060

Sent via email to (b)(6)
CC (b)(6)

RE: HDTRA1-14-C-0104 Technical Direction for Nipah Research Activity Project (RAP)

Dear Dr (b)(6)

Metabiota, Inc. (Metabiota) is pleased to present the attached proposal in response to the above referenced Letter of Technical sent by DTRA on June 3, 2015.

Metabiota intends to engage Duke NUS and The Regional Institute of Tropical Medicine as subcontractors to implement this effort.

For the effort described, Metabiota estimates the Rou Order of Magnitude (ROM) to be **$874,846** for a Period of Performance of June 01, 2015 to September 30, 2016. The detailed budget is included. This proposal remains valid until September 30, 2015.

Please feel free to contact (b)(6) with questions or concerns at (b)(6)

Sincerely,

(b)(6)

Contracts Manager

Metabiota's Technical and Cost Proposal

"DTRA/CBEP Implementation of Sample Collection and Diagnostics on Middle East Respiratory Syndrome (MERS-CoV) in Camels and Bats in Kazakhstan"

Technical Direction Number: TD-002
Contract Number: HDTRA1-14-C-0104
CAGE Cod[redacted]
DUNS number[redacted]

Small US Business
Metabiota, Inc.

METABIOTA

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Executive Summary

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) team responsible for the United States Central Command (USCENTCOM) is tasked with a mission of scientific study and experimentation directed toward advancing or increasing knowledge and understanding of worldwide basic research standards to enhance capabilities and mitigate threats. In support of this effort, the CBEP USCENTCOM team has identified the requirement for a two-phased training event supporting the safe collection and analysis of Middle East Respiratory Syndrome (MERS-CoV) in Camels and Bats in Kazakhstan. This engagement will support the development and enhancement of surveillance programs throughout Kazakhstan, aimed at promoting biosafety and security.

The Metabiota team brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGO) whose respective aims could impact CBEP objectives.

Metabiota has executed scientific objectives on a number of Department of Defense contracts, and understands the Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) mission is to safeguard the United States and its allies from weapons of mass destruction (WMD) including chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) by providing capabilities to reduce, eliminate, and counter the WMD threat and mitigate its effects. The Company recognizes that DTRA's Cooperative Threat Reduction (CTR) Program is a critical component of the U.S. Government's (USG) approach to threat reduction, which promotes collaboration with international and non-governmental partners in order to advance regional engagement and multilateral cooperation while developing locally appropriate, sustainable programs. Through the Academic Engagement Partnership (AEP) Program, Metabiota aims to support CTRs CBEP mission of reducing the potential impact of biological threats through enhanced biological safety and security, awareness of biological risks, and knowledge related to biological pathogens.

Through the development of coherent training methodoogies that are driven by on-the-ground experience and decades of expertise, as well as follow on engagements and deliverables, Metabiota is well positioned to support training activities and scientific engagement in the USCENTCOM's region of responsibility.

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Background

The US Department of Defense (DoD) initiated the CBEP through the DoD DTRA in order to: secure and consolidate select agents; enhance Biosafety and Biosecurity (BS&S) standards; and strengthen the USCENTCOM region's ability to detect, diagnose, surveil, and report emerging and re-emerging diseases of international security concern. CBEP accomplishes these objectives in accordance with the World Health Organization (WHO) International Health Regulations (IHR) and World Health Organization for Animal Health Guidelines (OIE). To achieve its mission, CBEP works collaboratively with partner nations, U.S. Government agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health, promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner.

Strategic CBEP Objectives

Through support for the CTR mission, as well as U.S. priorities for countering biological threats and promoting global health security, including One-Health, CBEP works with partner countries to:

- Utilize minimal facilities to store stocks of dangerous pathogens;
- Employ biorisk management best practices and principles based on internationally acceptable guidelines and standards (enhance capacity to account for, safeguard, and secure pathogens of concern);
- Engage in cooperative research with host scientists and the international science community;
- Conduct effective disease surveillance, detection, reporting, and response to rapidly diagnose bioterrorism and outbreaks; and
- Comply with WHO IHR and OIE reporting guidelines.

Purpose

The purpose of this event is to provide sample collection and diagnostics training to 34 participants from across various scientific institutes and ministrial bodies in Kazakstan, to develop and enhance disease detection, surveillance and response capacity within the country while faciliting cooperative research and scientific engagement in support of CBEP's mission.

To achieve this purpose, CBEP has identified the need for two, six-day training courses hosted in Almaty, Kazakhstan primarily following and FAO animal manual, "Investigating the role of bats in emerging zoonoses: Balancing ecology, conservation, and public health", adapted to capture other hosts, and demonstrating field surveillance and BSL-2 laboratory approaches where participants will receive hands-on experience at handling bats and camels, and taking samples. Using a train-the-trainer approach, this engagement will promote: reducing biological

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threats, engaging scientists through cooperative pursuits, and enhancing host-nation capacity in disease surveillance and response, while adhering to international codes of security and safety to ultimately provide a mechanism for sustained engagement.

To accomplish this purpose, DTRA CBEP, through the Academic Engagement Partnership Program (AEP) will engage Metabiota Inc. and it's cadre of Qualified Trainers (QTs) and Subject Matter Experts (SMEs) to implement the sample collection and diagnostics training event in Kazakhstan.

Objectives

Through the implementation of the sample collection and diagnostics training on Middle East Respiratory Syndrome (MERS-CoV) in camels and bats in Kazakhstan facilitated by Metabiota Inc., DTRA CBEP will be able to:

- Develop and enhance disease surveillance systems targeting pathogens of security concern and building regional detection and response capabilities.
- Facilitate safe sample collection and handling practices supporting the implementation of international standards of biosafety and security.
- Support public health capacity building in the region utilizing a train-the-trainer model and fostering scientific research and collaboration through the development and implementation of basic research activities.

Outcome

The training will provide a measurable and achievable result in building pathogen surveillance programs in Kazakhstan, while promoting a global network of research collaborations, and developing a sustainable infrstructure for advancing scientifc research, including the early detection of emergent threats.

Threat Reduction

Training engagements are critical to capacity building efforts in host countries and supporting the early detection and response to emerging threats, thus safeguarding the world from infectious disease threats. Without completion of the training engagement, the region is subject to the following identified risks:

- Incomplete country and regional coverage of disease detection, reporting and response systems
- Increased security threats due to improper handling of pathogens of security concern
- Limited understanding of pathogens of concern circulating in the region

The completion of the training will mitigate the identified risk factors by:

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- Improve and enhance disease detection, reporting and response systems across the country
- Implement and improve biorisk management best practices and principles based on internationally acceptable guidelines and standards (enhancing the capacity to account for, safeguard, and secure pathogens of concern)
- Provide safe handling techniques during collection and analysis of samples to include proper handling, transport, and storage of samples
- Increasing scientific capabilities through research collaboration and fostering an environment of scientific partnership

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Risk Management

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
				Cost		
Technical Direction NTE Ceiling	The current budget with travel management procurement and execution may exceed the ceiling for the technical direction	5	3	(b)(4); (b)(6)	Metabiota will monitor costs and work diligently to seek out the lowest cost possible for procurement and travel as well as mitigate extended labor hours during events. CLS will be used to support logistics, further limiting Metabiota costs	Med-High
Material Procurement	Short suspense for the acquisition, extended customs clearance times, and limited availability of supplies in country may increase costs	5	5		Engage a local organization to support all in country procurement needs & expediting services if authorized. CLS will be engaged for all OCONUS procurement and shipments to KZ for June and will procurement all materials for the Sept training reducing Metabiota costs	Med-High
				Schedule		
Submission of CCR	The CCR deadline is 45 days prior to travel, but the LoTD was received within that window	5	5	(b)(4); (b)(6)	Submit CBEP required deliverables for the training engagement, country clearance and travel authorization immediately upon receipt of proposal approval to ensure successful implementation	Med-High
Submission of TEP	The TEP submission deadline is 60 days but the LoTD was received within that window	5	3		Submit CBEP required deliverables for the training engagement, country clearance and travel authorization immediately upon receipt of approved proposal to ensure successful implementation	Med-High
Project Coordination	Short suspense to execute training engagement hosting 34 local participants and requiring 8 trainers to travel to Kazakhstan in support of this effort in the June-July timeframe	4	4		Hold routine calls with regional and country leadership and collaborators, as needed to understand and implement technical requirements and ensure communication across the training events. After action of first training engagement to capture improvements or course correction for implementation of follow on training event in the Fall	(b)(4); (b)(6)
Acquisition of materials	There is limited availability in country for the types of materials we require, but customs clearance for single shipment is 45 days which may impede time execution	4	5		Materials will be procured locally as available to limit international purchases and CLS and DTRO will be engaged to support shipping and clearances. If authorized a local expediter will be engaged	
				Performance		
Material Availability	It is a challenge to ensure that all of the necessary materials are in place in the allotted time, especially with country clearance requirements	4	4	(b)(4); (b)(6)	Engage a local logistics organization to provide in-country support, if authorized with rapid turn around and solid track record in supporting USG operations. Utilize CLS and DTRO support.	
Course Syllabus Development	Receipt of technical direction was within 30 days of training execution	3	5		In anticipation of the event, the team began developing the course at no cost to CBEP, in order to ensure that it was ready for the event	
Logistics Coordination	There are a lot of moving pieces to get all equipment, trainers, facilities, and trainees in position to execute training on the required timeline	4	4		Utilize CLS to provide logistics support, and a local logistics organization to provide in country support with rapid turn around and solid track record in supporting USG operations for the June event, if necessary and authorized for local transport of participants to the training event.	
Sample Availability	The training is being scheduled based on the availability and patterns of bat and camel populations, making schedule risks into performance risks	3	5		The entire team will coordinate closely with CBEP and in country partners in order to come up with effective and efficient solutions to the scheduling and implementation challenges in order to keep the event on schedule	Med

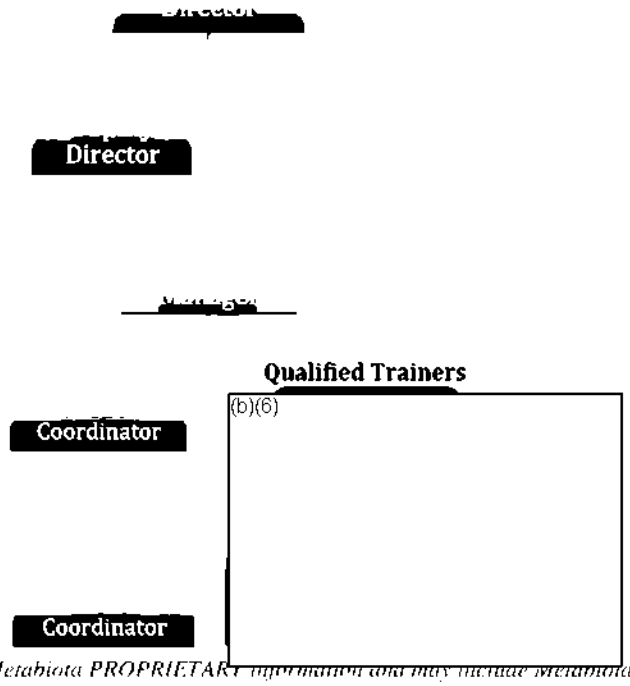
Management Approach

Introduction

Metabiota will employ its existing organizational leadership to interface with the Regional Science Manager, and Country Manager, as needed to direct the operational and administrative support required to ensure implementation of the training engagement. Our SE Asia Program Manager (b)(6) will oversee training implementation, with the support of a project coordinator, travel coordinator, and qualified trainers to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Project Team Structure

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the SE Asia Program Manager. Project Coordinator, Travel Coordinator and Metabiota Qualified Trainers that will be tasked with specific assignments to support the development and implementation of training event based on their administrative and scientific expertise. This team of experts will ensure the overall project management and tasks associated with the training are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.



Initiation

Following guidance from CBEP CENTCOM leadership, and working collaboratively with trainers from Duke-NUS, and local collaborators from The Republican Governmental Enterprise "Microbiology and Virology Institute" Committee of Science of the Ministry of Education and Science of the Republic of Kazakhstan (RGE MVI CS ME&S RK), Metabiota will refine training materials originally deployed and presented at a CBEP PACOM bat-borne surveillance training course held at Duke-NUS in May 2014 to be adapted for this training. Prior to initiating any action, Metabiota and CBEP will secure a clear understanding of the objectives and mission of this undertaking, and make sure all stakeholders agree to it. Following technical direction and authorization to proceed by DTRA, Metabiota will move into the planning and execution of the training.

Planning and design

Completion of this task requires two training events, and a staged approach due to the short suspense required to implement the first training course. Metabiota will immediately focus on planning, designing and implementing Phase 1 training (June-July), which will consist of a practicum and hands-on field sampling. Following successful execution of Phase 1, Metabiota will implement Phase 2 (September) of the training, which will be laboratory based, and will consist of both lectures and conducting diagnostics on samples collected during the first event. Both events will be five to six days in length and will support a total of 34 participants at each event, however only ten to fifteen of the participants will be selected to participate in the hands-on portion of the course, to ensure safety standards are maintained.

Metabiota will identify the required qualified trainers to faciliate the event from it's cadre of experts and will engage the trainers to develop a syllabus for each course, which will take into account regional sensitivities and religious requirements to ensure the course is conducted in alignment with regional practices. Following syllabi completion, Metabiota will adapt and refine training materials from a previously held 9-day CBEP funded bat-borne pathogen training course facilitated by Metabiota at the Duke-NUS campus in May 2014 for use. Training materials follow the FAO animal manual, "Investigating the role of bats in emerging zoonoses: Balancing ecology, conservation, and public health", but will demonstrate field surveillance and BSL-2 laboratory approaches where participants will get hands on experience at handling bats and camels, and taking samples. As materials are already generated and require minimal change to meet regional and training specific needs, Metabiota anticipates a quick turn-around for final documents, which will result in succesful execution of the events. In addition to refining the materials, developing a syllabus to accompany the training and accommodating regional sensitivities, Metabiota will submit the required Training Event Plan (SOW Section 4.3, Task 3, CDRL A0006) with participant details to ensure all prior approvals are received before implementation.

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In addition to designing the courses and adapting the materials, Metabiota will work with Duke-NUS and RGE MVI CS ME&S RK to determine in-country logisitical needs to facilitate the training events to include travel and transporation, procurement of materials and supplies, conference arrangements, fit-testing, and other operational requirements necessary to ensure proper execution. CLS will be engaged to support logistics, and ensure they are successfully managed. CLS will provide travel and transportation support, translation and interpretation services, conference services and other identified needs. Metabiota will also utilize a local logistics organization, TMC to provide local procurement services, and travel support for the June training if CLS cannot accommodate the short timeframe required for execution. Metabiota will maintain communciation with regional and country leads, as well as CLS personnel, during all phases of planning and implementation to ensure smooth operations and successful engagement.

Execution

The core project management team will maintain oversight and implementation of the project at all times and will ensure rapid execution of both training events, tracking objectives to ensure the project stays on schedule to complete the training exercises. The project will be managed according to the phased implementation plan and will be course corrected, as needed to ensure target end-goals are reached. The following tools will be used to guarantee the project schedule will be maintained:

Project Administration:

1. Weekly team meetings and conference calls will be held to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Coordinator and will include the PM, TC, Senior QTs and AEP leadership, as needed based on the requirements and stage of implementation.
2. Routine calls and communication via email will be held with CBEP regional leadership, CLS and Metabiota to provide routine status updates, coordination and ensure training implementation.

Project Reporting:

1. Weekly status reports will be provided by the PM to senior MB leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction, as needed to ensure training goals are met.

Monitoring and Controlling

1. Routine risk assessment will be performed internally among the MB project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with CBEP regional leadership, and CLS to ensure the project remains on track and is implemented according to standard.

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3. Routine oversight and coordination will be peformed to ensure TMC is performing in-country requirements to ensure successful execution of the training. Monitoring will include both administrative and fiscal oversight.

Completion

Maintaining a focused project schedule with routine meetings and communication with CBEP regional leadership allowing for continued coordination, while maintaining targeted objectives, Metabiota will drive the project to completion by the end of September with the delivery of two coordinated training events. Following completion of each training engagement, review, final validation, and a back-and-forth dialogue with CBEP regional leadership, Metabiota will provide required training trip report deliverables and after action reports to allow for lessons learned and continuation of solid execution and implementation of activities. Metabiota believes that the experience and management it will bring to this project, in collaboration with CBEP will guarantee success.

Technical Approach

Introduction

Emerging infectious diseases (EIDs) are a challenge for medical and public health infrastructures across the globe. Pursuant with the One Health Initiative, emergent pathogens are primarily zoonotic in origin, with interspecies zoonotic RNA viruses considered to be the primary etiological agent. Importantly, for many of these agents, wildlife often serves as the natural reservoir for known and unknown infectious zoonotic pathogens. For instance, bats are known to carry at least 11 virus families from which over 70 viruses have been isolated. Inclusive of this, bats appear to be the putative source for medically important viruses, including rabies, the Middle East respiratory syndrome (MERS)-and Severe acute respiratory syndrome (SARS)-coronaviruses, as well as Nipah and Henra viruses. In addition, camels are a known MERS reservoir. Exposure of incidental hosts, such as humans, to coronaviruses or paramyxoviruses can progress to infections with high morbidity and mortality for which the economic costs, including the associated burden of morbitiy and mortality, lost tourism, revenue can number in the billions of dollars. The SARS outbreak alone is estimated to cost over $50 billion worldwide, demonstrating the need for proactive surveillance.

After the SARS outbreak in Asia and subsequent spread to North America, coronaviruses have been an area of focus to understand the virus ecology and evolution, ascertain reservoir hosts and determine the transmission dynamics. The emergence of the MERS-coronavirus (MERS-CoV) and its associated acute respiratory illness in humans alerted scientists that of another potential pathogenic coronavirus. The virus was initially described in 2012 from a patient in Saudi Arabia and has since been recorded in 21 countries with over 700 laboratory confirmed cases. The primary means of human infection has been human-to-human transmission with associated cases of nosocomial transmission. The case fatality rate is approximately 30%,

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though a high number of fatalities have been associated with co-morbidities. The majority of cases lack data on the level of animal contact. MERS-CoV has a suspected intermediate animal reservoir, the dromedary camel, and the putative source of these infections is suspected to come from bats. Related coronaviruses have been identified in bats in Europe and South Africa. Neutralizing antibodies have been found in camels that came from Kenya, Spain, and Egypt, as far back as 1992, indicating a long standing infection course and not a recent cross-species transmission event into camel populations. The wide geographic distribution, continual evidence of human infection, density and abundance of intermediate reservoir hosts dictate that longitudinal surveillance programs should be established to monitor prevalence.

Training

Training on MERS-CoV will insure that researchers have ample experience to undertake both field and laboratory experiments in animal and human populations following rigorous biosafety protocols. This proposed training incorporates two separate sessions. The first will focus on training for bat and camel handling and sampling, while the second will be setting up diagnostics for serology and antigenic material.

The first training course will be held from June 29 – July 3, 2015 and will primarily focus on the collection of samples from bats and camels and be five days in length. Participants will need to obtain specific prerequisites for testing, including; tetanus, hepatitis B and rabies vaccinations, N-95 respirator fit testing, and be fit enough to participate in field work. There will be one full day of lectures, followed by two half days of lectures and bat trapping. The fourth day will be a visit to sample camels. The last day will be lectures followed by another bat trapping visit. Participants will visit a site with high camel density to collect samples and also develop questionnaires for people working in high-risk areas (for example, animal handlers, abattoir workers). Three days will be used to learn about trapping bats, such as assessing field sites and setting up different types of bat traps/nets, understanding the basics of bat identification, removing bats from nets and safely handling bats, understanding different methods of marking bats, collecting different samples and maintaining an effective cold chain.

The second training session will be held from September 7-11, 2015 in Almaty, Kazakhstan at the International Science and Technology Center (ISTC), and will consist of lectures, theoretical aspects of MERS-CoV, and setting up laboratory diagnostics. It will be approximately five days with lectures covering the following thematic areas: a) Review of Coronaviridae, b) Properties of MERS-CoV, c) Cross-species transmission of coronaviruses – definitive and intermediate hosts, d) Molecular virology and cell culture assays for MERS-CoV, e) Antigenic and serological detection assays, f) Clinical symptoms in humans and camels, g) Surveillance schema for MERS-CoV. The laboratory portion of this training will focus on setting up PCR and qPCR assays with positive controls and setting up ELISAs specific for MERS in camel and bat sera. Detection of the virus family Coronaviridae will also occur. The goal will be to test all of the samples collected between the first and second training for MERS. This will frame a manuscript for MERS surveillance and provide background data for a grant application to establish a longitudinal surveillance program.

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After completion of the trainings, participants will be able to:

- Assess field sites and set up different types of bat traps/nets
- Understand the basics of bat identification
- Remove bats from nets and safely handle bats
- Safely sample camels
- Understand different methods of marking bats
- Collect different samples (oral and anal swabs, ectoparasites, blood, serum) and maintain an effective cold chain
- Establish an appropriate record keeping and labeling system for their needs
- Determine how to process and screen samples based on the detection of expected and unknown pathogens
- Safely use a BSL-2 laminar flow hood to process samples
- Dissect a bat and remove tissues for pathogen screening
- Extract nucleic acid (manual and automated homogenization), set up PCRs based on virus family-specific primers, and analyze the results with gel electrophoresis

Communications Protocols

Metabiota will maintain open communications with international collaborators necessary for implementing the training, to include regional partners supporting the training engagement and logistics. In addition, Metabiota will maintain routine communication with CBEP and CLS to ensure coordination and that CBEP maintains full visibility on the training engagement, status and process of execution.

Phases of Technical Approach

Phase 1: Development of Training Course to include Syllabus and Adaptation of Materials
Phase 2: Initiation of logistical requirements and procurement of materials/supplies necessary for training in conjunction with CLS
Phase 3: Implementation of 1st training event with field sampling activities in June-July to include coordination of both local and regional travel
Phase 4: Implemetation of 2nd training event with laboratory diagnostics in September to include coordination of both local and regional travel

There will be four phases to the technical approach. Phase One will be initiated immediately following technical direction and will involve coordination with Duke NUS qualified trainers to adapt previously used training materials, design the training syllabus, and identify the necessary materials and supplies required to implement the training. In addition to designing the training, Metabiota will work with CBEP and RGE MVI CS ME&S RK to identify the participants from local institutions and ensure they are available and meet the pre-requisites for training. Once the materials necessary for the training have been identified, Metabiota will immediately engage in procurement activities to ensure supplies can be procured and received in time for both

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trainings. CLS will be utilized for all CONUS based procurement and shipping requirements and TMC for local procurement, and expediting services if allowable. Metabiota will directly support procurement of any supplies purchased in third countries and shipped directly to Almaty. This is the greatest risk to successful implementation of the training events, as Kazakhstan has an estimated 45 day clearance requirement for all interntional shipments, which may impede implementation of the June training. To mitigate this risk, Metabiota will engage TMC Global Professional Services to assist in procuring all supplies locally that can be obtained in country. TMC has provided support services to USG funded agencies and programs in the arena for over 20 years and has a proven track record in providing management and technical services within the region. For all items that cannot be procurement locally with TMC, Metabiota will work independently and in conjuction with CLS to secure the necessary materials and supplies. As the customs clearance process is extended in Kazakhstan and different supply lists are required for each engagement, Metabiota anticipates that procurement requirements and activities will last the duration of the period of performance.

Phase Three and Phase Four of the project will be the actual implementation of each training event, according to schedule. To support the logistical requirements of the training events, CLS will be engaged to facilitation this portion of the work to include travel and transportation services, translation and interpretation services, shipping and procurement of supplies, as well as conference arrangements. Metabiota will engage TMC to support local procurement activities in support of implementation, and expediting support if authorized for all incoming shipments.

Outside of logistical support for these phases, Metabiota's engagment with Duke NUS faculty and researchers will ensure strong technical support and implementation of the these events. Duke NUS is a world-renown institute with state of the art facilities and a long-standing repor in the research community. Trainers from Duke NUS have been responsible for two previously funded CBEP training courses, in collaboration with international experts from around the world and have built the baseline for the courses that will be conducted in Almaty. They have a proven track record that has resulted in improved biosurveillance and security practices, as well as the intiaition of cross-regional collaborations, publications and scientific engagement fostered by the training events. With regional and local logistical expertise provided by TMC coupled with the technical expertise of Duke NUS. Metabiota is confident that the trainings will be a success.

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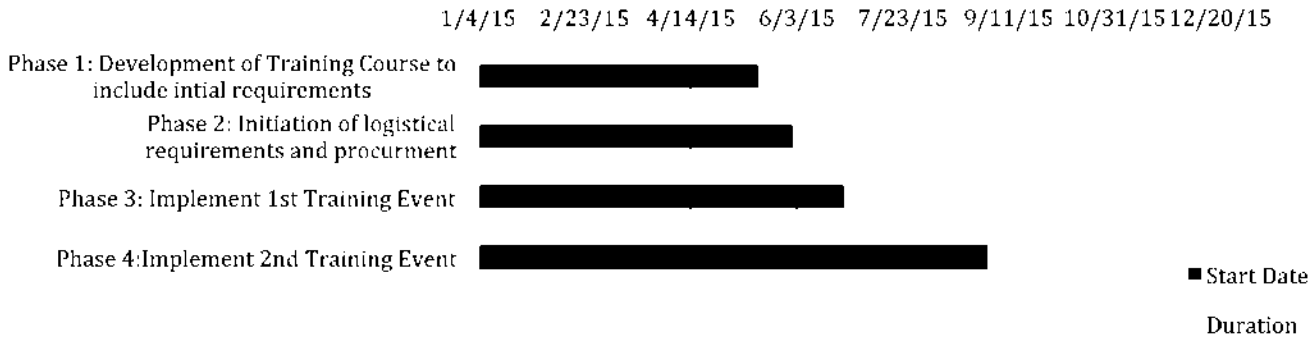
Timeline



Phase 1 – Development of training course to include syllabus, adaptation of materials, list of materials/supplies and identification of participants (16 May – 20 June)

Objective: Adapt training materials for regional requirements and translation, identify trainers and participants, develop supply list for training, and intiate travel requirements

Process: Metabiota, in coordination with CBEP, Duke NUS, and local partners will ensure development, adaptation and approval of the training and associated materials, to include generating the supply list required for the trainings. This will also include travel authorization and CCR for all international travelers. Meatabiota will complete this requirement as close to CBEP deadlines as possible, acknowledging that technical direction was received outside of the standard timelines for approval.

Deliverables: Submission of the TEP, Travel Authorization and CCR.

Phase 2 – Logistics and Procurement (1 June – 15 September)

Objective: CLS to provide logistical support for implementation of training events and procure the necessary training materials.

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Process: Metabiota will engage with CLS to provide logistical support services for this project to include procurement of materials and supplies. Along with CLS, Metabiota will engage TMC to provide in-country procurement support, and expediting of international shipments if allowed. Metabiota will support travel of participants to the June event, should CLS be unable to do so based on the limited timeframe to execute the engagement. Metabiota will utilize TMC to support these efforts, if deemed necessary. In addition, Metabiota will work with trainers and local collaborators to ensure initiation and implementation of all requirements leading up to the training, to include, procurement, travel, transport and coordination of the event.

Deliverables:

- Deliverable #1: Finalize supply list, determing what can be purchased locally and what will be procured internationally. Engage CLS as needed for procurement support.
- Deliverable #2: Work with local and international vendors to procure supplies and have them shipped or delivered to training location in Almaty.
- Deliverable #3: Work with CLS, local collaborators to provide information for CLS to identify location of conference, setup facilities, arrange local travel and other logistical needs required for implementation to include translation services. Ensure all arrangements are made in advance to support training engagment.

Phase 3 and 4 – Training Implementation (29 June – 30 September)

Objective: Conduct two training courses for 34 participants

Process: Metabiota will work with CLS to provide the in-country logistical support required to implement the training engagements, as well as utilize TMC as needed. Metabiota will oversee all TMC activities to ensure administrative and fiscal management of the operations. In addition, Metabiota will engage Duke NUS trainers and local collaborators to ensure expert technical implementation of the training engagement. Metabiota personnel will oversee Duke NUS trainers on the ground to ensure all training activities are exectued.

Deliverables:

- Deliverable #1: Execute June-July training course focused on field sampling activites. Deliverable #2: Executed September training course focused on laboratory diagnostics.
- Deliverable #3: Provide training trip reports upon completion of training events according to CBEP guidelines.

Metabiota Key Personnel

(b)(6) eputy Director

Mr. (b)(6) is the Deputy Director of the Academic Engagement Partnership (AEP) Program and an Internationally Certified Emergency Manager (CEM®) with 14 years of experience leading, managing, and consulting on the full spectrum of Counter Weapons of Mass Destruction (CWMD) operations and Chemical Biological Defense programs, as well as research and development in support of joint task forces, special operations forces, other government agencies, and the Department of Defense on the strategic, operations, and tactical level. (b)(6) is a driven leader with a proven track record of building value with partners through the identification of capability gaps, and the development and validation of effective solutions to the unique challenges faced when dealing with Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) threats. In addition, he is well versed at risk analysis and management, strategic planning, policy analysis and political engagement.

(b)(6), Southeast Asia Regional Program Manager

Ms. (b)(6) is the Southeast Asia Regional Program Manager of the Academic Engagement Partnership (AEP) Program with over eight years experience as a global health project / program manager, with a focus in SE Asia regional activities, having lived and worked in Cambodia for four years supporting DoD efforts in the region. Since joining Metabiota in 2010, she has managed DTRA CBEP engagements in West and Central Africa, to include Ebola response efforts, as well as spending three years as the Program Manager on projects funded by USAID, AFHSC GEIS, BEP, NIH, USAMRIID, and HJF spanning all regions of Metabiota engagement.

(b)(6), Training Coordinator

Ms. (b)(6) will be joining Metabiota in March, and will be engaged as the Project Coordinator for this effort. She joins the team following completion of an MBA with experience in project controls, coordination, strong writing and editing skills and will bring a business approach to the project, keeping track of all deliverables, scheduling, and facilitating coordination with both internal and external stakeholders. In addition to her business expertise, Ms. (b)(6) worked as a Data Technician and Interviewer for NIH/CDC sponsored studies, while completing her undergraduate work at Duke.

Qualified Trainers

(b)(6), Course Director

(b)(6) received his BS in Entomology and Zoology from the University of Wisconsin at Madison and his PhD in Parasitology with a focus on vector borne infectious diseases from Department of Tropical Medicine at Tulane University. He was the laboratory manager for a large mosquito control company and his doctoral research focused on the transmission cycles of arboviruses between birds and mosquitoes, especially regarding the relative contribution of these individuals

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towards viral amplification and dampening.

As a Senior Research Fellow at Duke-NUS, his current work focuses on the ecology and evolution of novel and reemerging infectious diseases in different animal populations in Southeast Asia. He supervises and coordinates all the Duke- NUS pathogen surveillance efforts. His interest is understanding how ecology and environmental variables impact the presence or absence of hosts (bats and small mammals), ectoparasites, and parasites in different habitats and their connectivity and isolation across different landscapes. He also is the insectary manager and works on arbovirus dynamics and vector competence in mosquitoes.

(b)(6)

(b)(6) received his BSc in Zoology from the National University of Singapore and an MSc in International Wildlife Trade and Conservation from the Durrell Institute of Conservation and Ecology at the University of Kent. He has varied research and conservation interests, which include human-primate commensalism, wildlife trade, conservation of mammals and sustainable use.

He has worked in National Parks Board (Singapore) (NParks) since 2000, and maintains a collaborative long-term study on the serology and bi-directional transmission of infectious agents in wild macaques with the National Primate Research Center at the University of Washington and the University of Notre Dame. His last professional appointment was Deputy Director (Projects) in the Conservation Division (NParks) before embarking on a PhD, which examines the urban ecology of bats in Singapore with the objective of understanding what factors determine bat diversity and activity in a highly urbanized landscape.

(b)(6)

(b)(6) primary training was in ecology and evolution at The University of Melbourne and he obtained his PhD at The University of Hong Kong in 2003, where he also undertook his post-doctoral training in the Department of Microbiology. Dr (b)(6) s an authority on the evolutionary aspects of influenza virus biology; especially at the human-animal interface and he has provided seminal studies on H5N1 viruses as well as the pandemic viruses of 1918, 1957, 1968 and 2009. In 2007 Dr (b)(6) was awarded a 7-year Career Development Award as part of the NIAID/NIH Centers of Excellence for Influenza Research and

Research in the Laboratory of Virus Evolution integrates ideas from a number of different fields including evolutionary genetics, virology, ecology, and infectious disease epidemiology. His research program is directed at efforts to better understand viral disease ecosystems in Asia, specifically the animal-human interface, to support rational implementation of disease control and intervention strategies. He conducts human and animal disease surveillance, isolates and characterizes pathogens (genetic and phenotypic) and generates hypotheses that he then tests in the lab. He is primarily interested in the roles played by mutation, natural selection,

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recombination/reassortment and host immune response on virus diversity within an individual, during transmission within a population and during inter-species transmission between hosts.

(b)(6)

(b)(6) received her BSc in Biological Science (major in Zoology) and a MSc in Ecology from the Federal University of Bahia – Brazil. Presently she is doing her PhD at the National University of Singapore. Her project uses a combination of field surveillance, ecological analysis, laboratory diagnostics, evolutionary genomics, bioinformatics, and predictive modeling and mapping to identify pathogens present in Singapore small mammals.

She has 15 years of field and laboratory experience working with different types of mammals such as rodents, shrews and bats in South America and Southeast Asia. Her background includes different fields like ecology, behavior, evolutionary genomics and infectious diseases. Erica also has practical knowledge of animal welfare, laboratory and field safety procedures and biorisk management.

(b)(6) Ph.D.

Prof (b)(6) is the Director of the Program in Emerging Infectious Diseases at Duke-NUS Graduate Medical School, Singapore. He also currently holds an appointment at the Office of Chief Executive (OCE) Science Leader at the CSIRO Australian Animal Health Laboratory (AAHL).

Having completed his Bachelor's degree in 1982 at the East China Normal University, Shanghai China, Prof (b)(6) went on to obtain his PhD at the University of California, Davis USA. His early research was at the Monash Centre for Molecular Biology and Medicine. In 1990, he joined the Commonwealth Scientific and Industrial Research Organization (CSIRO), Australian Animal Health Laboratory (AAHL) where he played a leading role in identifying bats as the natural host of the Severe Acute Respiratory Syndrome (SARS) virus. Recently, he led an international team carrying out comparative genomic analysis of two bat species and discovered an important link between adaptation to flight and bat's ability to counter DNA damage repair as a result of fast metabolism and to co-exist with a large number of viruses without developing clinical diseases.

Prof (b)(6) work has been recognized internationally through various international awards, numerous invited speeches at major international conferences and many top scientific publications including, Science, Nature Reviews in Microbiology and the Proceedings of the National Academy of Sciences (PNAS), along with five patents and many invited book chapters. He holds a number of honorary positions and memberships and has received numerous awards such as the CSIRO Award for Excellence in Partnership in 2006 for establishing a rapid-response global research partnership that was instrumental in identifying the animal reservoir of SARS. In 2010, Prof (b)(6) was elected as a Fellow of Australian Academy of Technological

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Sciences and Engineering in recognition of his expertise in new and emerging diseases.

(b)(6)

(b)(6) earned basic biology during his B.Sc. studies at the Westfälische Wilhelms University in Münster, Germany and focused on cell signaling during mammalian development. He received his training in Virology at the department of Viroscience at Erasmus Medical Center Rotterdam, the Netherlands, during a M.Sc. degree program in Molecular Medicine. He was involved in experiments on the innate immune signaling of several Paramyxoviruses. He continued to work at the same institute during his PhD studies focusing on the transmissibility of zoonotic and pandemic influenza A viruses via the air using reverse genetics techniques and several animal models. His current research interests include the molecular characterization of viruses relevant for human health and the description of viral fitness parameters that play a role in pathogen evolution.

Cost Management

The Metabiota team and all partners will maintain an acute focus on cost management to ensure that the training is delivered at a reasonable cost to the government. Our team will provide full oversight of TMC to ensure accurate and responsive finanical reporting and tracking of their services agreement, as well as facilitate cost savings to the Government whereever possible. Metabiota will follow procurement regulations ensuring the best price is received under the time constraints using all means available.

Budget Narrative

Period of Performance

The Period of Performance for this effort is May 16, 2015 to September 30, 2015.

Labor

Costs for direct labor to support this activity is required for the following personnel:

Metabiota SEA Program Manager (b)(6), to oversee and execute the training to include management of deliverables, logistics, procurement, tracking of project requirements, and implementation.

Metabiota Training Coordinator (b)(6) to assist in coordinating the training, to include assisting in management of deliverables, logistics, procurement, tracking of project requirements, deliverables and logistics.

Duke NUS Trainers 1 (b)(6), to assist senior trainers in facilitating the training event, to include adaptation of materials, syllabus input, assistance in both practicum and hands-on field sampling events ensuring an appropriate ratio of trainees to trainers reinforcing safe handling procedures.

Duke NUS Trainers 2, (b)(6), to oversee development of training materials and syllabus, implementation of the training to include delivering classroom training and conducting and overseeing field sampling activities, to include facilitation of scientific engagement.

Duke NUS Trainers 3 (b)(6) to supervise training coordination and development, review, develop and adapt training related documents and deliverables, provide coordination with select trainers, as well as general research activities and facilitation of scientific collaboration.

Additional costs for direct labor supporting the Deputy Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials

Materials and supplies are required to support training efforts, to include training materials, bat capture and acoustic equipment, safe handling and bat capture supplies, PPE, bat and camel sampling supplies, laboratory reagents and consumables. CLS will be utilized for all procurement activities originating in the US.

Fit Testing is required to fit N95 masks on all trainees participating in the field sampling portion of the event. Fit testing will be conducted and overseen by (b)(6), in addition to local support services provided by TMC.

TMC Global Professional Services will provide in-country procurement services to support the training events. Services provided will include local procurement and transfer to the training, customs clearance assistance, if authorized.

Other Direct Costs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for trainers coming from Duke NUS for the period of performance for this engagement. Metabiota personnel performing on this project are already insured.

Subcontracts

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A Subcontract will be issued to Nuke NUS for time provided by their Trainers, as well as materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

A Vendor Services agreement will be issued to TMC for local procurement services provided, as well as expediting services, if approved. Costs are captured under the materials in CLIN 1003 of the budget.

Travel

At the request of DTRA, travel is required for (b)(6), Deputy Director of the AEP program and (b)(6) Southeast Asia Program Manager to travel to Almaty to oversee the implementation of the training.

Travel is requested to support all Qualified Trainers to facilitate implementation and conduct training activities in this effort. Trainers will be traveling from Duke NUS in Singapore to Almaty to conduct this training event.

Travel is also requested for 10 local participants based outside of Almaty that require support to attend the event, should Metabiota be required to support this due to the short suspense required for engagement.

Conclusion

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP CENTCOM in the implementation of the Sample Collection and Diagnostics Training on Middle East Respiratory Syndrome (MERS-CoV) in Camels and Bats in Kazakhstan. Metabiota will ensure, through strong project management and risk mitigation that the training will be executed in an efficient and timely manner delivering a top quality course geared to support enhanced biosurveillance and biosafety efforts in the region.

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Metabiota's Technical and Cost Proposal

"DTRA/CBEP Implementation of Sample Collection and Diagnostics on Middle East Respiratory Syndrome (MERS-CoV) in Camels and Bats in Kazakhstan"

Technical Direction Number: TD-002
Contract Number: HDTRA1-14-C-0104
CAGE Cod (b)(4); (b)(6)
DUNS number

Small US Business
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Executive Summary

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) team responsible for the United States Central Command (USCENTCOM) is tasked with a mission of scientific study and experimentation directed toward advancing or increasing knowledge and understanding of worldwide basic research standards to enhance capabilities and mitigate threats. In support of this effort, the CBEP USCENTCOM team has identified the requirement for a two-phased training event supporting the safe collection and analysis of Middle East Respiratory Syndrome (MERS-CoV) in Camels and Bats in Kazakhstan. This engagement will support the development and enhancement of surveillance programs throughout Kazakhstan, aimed at promoting biosafety and security.

The Metabiota team brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGO) whose respective aims could impact CBEP objectives.

Metabiota has executed scientific objectives on a number of Department of Defense contracts, and understands the Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) mission is to safeguard the United States and its allies from weapons of mass destruction (WMD) including chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) by providing capabilities to reduce, eliminate, and counter the WMD threat and mitigate its effects. The Company recognizes that DTRA's Cooperative Threat Reduction (CTR) Program is a critical component of the U.S. Government's (USG) approach to threat reduction, which promotes collaboration with international and non-governmental partners in order to advance regional engagement and multilateral cooperation while developing locally appropriate, sustainable programs. Through the Academic Engagement Partnership (AEP) Program, Metabiota aims to support CTRs CBEP mission of reducing the potential impact of biological threats through enhanced biological safety and security, awareness of biological risks, and knowledge related to biological pathogens.

Through the development of coherent training methodologies that are driven by on-the-ground experience and decades of expertise, as well as follow on engagements and deliverables, Metabiota is well positioned to support training activities and scientific engagement in the USCENTCOM's region of responsibility.

Background

The US Department of Defense (DoD) initiated the CBEP through the DoD DTRA in order to: secure and consolidate select agents; enhance Biosafety and Biosecurity (BS&S) standards; and strengthen the USCENTCOM region's ability to detect, diagnose, survey, and report emerging and re-emerging diseases of international security concern. CBEP accomplishes these

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objectives in accordance with the World Health Organization (WHO) International Health Regulations (IHR) and World Health Organization for Animal Health Guidelines (OIE). To achieve its mission, CBEP works collaboratively with partner nations, U.S. Government agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health, promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner.

Strategic CBEP Objectives

Through support for the CTR mission, as well as U.S. priorities for countering biological threats and promoting global health security, including One-Health, CBEP works with partner countries to:

- Utilize minimal facilities to store stocks of dangerous pathogens;
- Employ Biorisk management best practices and principles based on internationally acceptable guidelines and standards (enhance capacity to account for, safeguard, and secure pathogens of concern);
- Engage in cooperative research with host scientists and the international science community;
- Conduct effective disease surveillance, detection, reporting, and response to rapidly diagnose bioterrorism and outbreaks; and
- Comply with WHO IHR and OIE reporting guidelines.

Purpose

The purpose of this event is to provide sample collection and diagnostics training to 34 participants from across various scientific institutes and ministerial bodies in Kazakhstan, to develop and enhance disease detection, surveillance and response capacity within the country while facilitating cooperative research and scientific engagement in support of CBEP's mission.

To achieve this purpose, CBEP has identified the need for two, six-day training courses hosted in Almaty, Kazakhstan primarily following and FAO animal manual. "Investigating the role of bats in emerging zoonosis': Balancing ecology, conservation, and public health", adapted to capture other hosts, and demonstrating field surveillance and BSL-2 laboratory approaches where participants will receive hands-on experience at handling bats and camels, and taking samples. Using a train-the-trainer approach, this engagement will promote: reducing biological threats, engaging scientists through cooperative pursuits, and enhancing host-nation capacity in disease surveillance and response, while adhering to international codes of security and safety to ultimately provide a mechanism for sustained engagement.

To accomplish this purpose, DTRA CBEP, through the Academic Engagement Partnership Program (AEP) will engage Metabiota Inc. and it's cadre of Qualified Trainers (QTs) and

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Subject Matter Experts (SMEs) to implement the sample collection and diagnostics training event in Kazakhstan.

Objectives

Through the implementation of the sample collection and diagnostics training on Middle East Respiratory Syndrome (MERS-CoV) in camels and bats in Kazakhstan facilitated by Metabiota Inc., DTRA CBEP will be able to:

- Develop and enhance disease surveillance systems targeting pathogens of security concern and building regional detection and response capabilities.
- Facilitate safe sample collection and handling practices supporting the implementation of international standards of biosafety and security.
- Support public health capacity building in the region utilizing a train-the-trainer model and fostering scientific research and collaboration through the development and implementation of basic research activities.

Outcome

The training will provide a measurable and achievable result in building pathogen surveillance programs in Kazakhstan, while promoting a global network of research collaborations, and developing a sustainable infrastructure for advancing scientific research, including the early detection of emergent threats.

Threat Reduction

Training engagements are critical to capacity building efforts in host countries and supporting the early detection and response to emerging threats, thus safeguarding the world from infectious disease threats. Without completion of the training engagement, the region is subject to the following identified risks:

- Incomplete country and regional coverage of disease detection, reporting and response systems
- Increased security threats due to improper handling of pathogens of security concern
- Limited understanding of pathogens of concern circulating in the region

The completion of the training will mitigate the identified risk factors by:

- Improve and enhance disease detection, reporting and response systems across the country
- Implement and improve Biorisk management best practices and principles based on internationally acceptable guidelines and standards (enhancing the capacity to account for, safeguard, and secure pathogens of concern)

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- Provide safe handling techniques during collection and analysis of samples to include proper handling, transport, and storage of samples
- Increasing scientific capabilities through research collaboration and fostering an environment of scientific partnership

Risk Management

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
				Cost		
Technical Direction NTE Ceiling	The current budget with travel, management, procurement, and execution will exceed the ceiling for the technical direction	5	3	(b)(4); (b)(6)	Metabiota will monitor costs and work diligently to seek out the lowest costs possible for procurement and travel, as well as mitigate extended labor hours during events	**Med-High**
Material Procurement	Short suspense the acquisition and limited availability in country may increase costs	4	4		Engage a local logistics organization to provide in-country support with rapid turn-around and solid track record in supporting USG operations.	Med
				Schedule		
Submission of CCR	The CCR deadline is 45 days prior to travel, but the LoTD was received within that window	5	5	(b)(4); (b)(6)	Submit CBEP required deliverables for the training engagement, country clearance and travel authorization immediately upon receipt of proposal approval to ensure successful implementation.	**Med-High**
Submission of TEP	The TEP submission deadline is 60 days but the LoTD was received within that window	5	3		Submit CBEP required deliverables for the training engagement, country clearance and travel authorization immediately upon receipt of approved proposal to ensure successful implementation.	**Med-High**
Project Coordination	Short suspense to execute training engagement hosting 34 local participants and requiring 8 trainers to travel to Kazakhstan in support of this effort in the June-July timeframe.	4	4		Hold routine calls with regional and country leadership, and collaborators, as needed to understand and implement technical requirements and ensure communication across the training events. After action of first training engagement to capture improvements or course correction for implementation of follow on training event in the Fall.	(b)(4); (b)(6)
Acquisition of materials	There is limited availability in country for the types of materials we require, but customs clearance for single shipper is 45 days	4	5		Engage a local logistics organization to provide in-country support with rapid turn-around and solid track record in supporting USG operations.	Med
				Performance		
Material Availability	It is a challenge to ensure that all of the necessary materials are in place in the allotted time	4	4	(b)(4); (b)(6)	Engage a local logistics organization to provide in-country support with rapid turn-around and solid track record in supporting USG operations.	Med
Course Syllabus Development	Receipt of technical direction was within 30 days of training execution	3	5		In anticipation of the event, the team began developing the course at no cost to CBEP, in order to ensure that it was ready for the event	(b)(4); (b)(6)
Logistics Coordination	There are a lot of moving pieces to get all equipment, trainers, facilities, and trainees in position to execute training on the required timeline	4	4		Engage a local logistics organization to provide in-country support with rapid turn-around and solid track record in supporting USG operations.	
Sample Availability	The training is being scheduled based on the availability and patterns of bat and camel populations, making schedule risks into performance risks	3	5		The entire team will coordinate closely with CBEP and in country partners in order to come up with effective and efficient solutions to the scheduling and implementation challenges in order to keep the event on schedule	Med

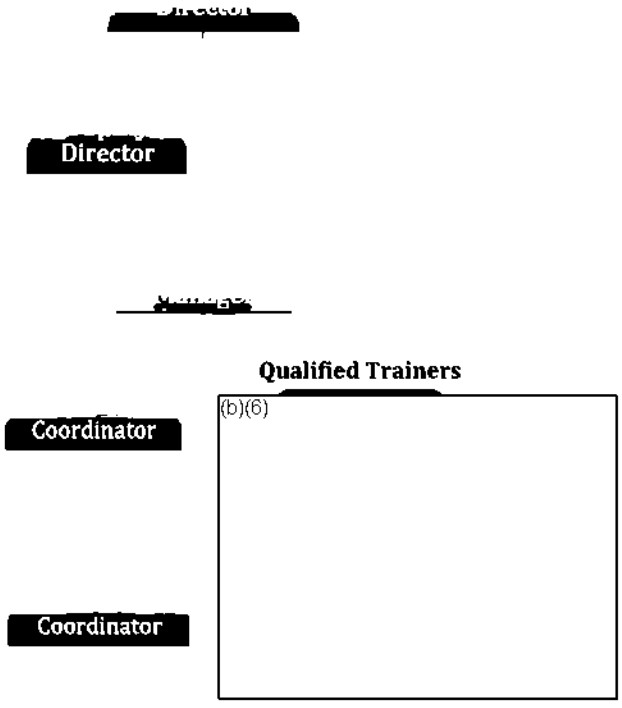
Management Approach

Introduction

Metabiota will employ its existing organizational leadership to interface with the Regional Science Manager, and Country Manager, as needed to direct the operational and administrative support required to ensure implementation of the training engagement. Our SE Asia Program Manager (b)(6) will oversee training implementation, with the support of a project coordinator, travel coordinator, and qualified trainers to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Project Team Structure

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the SE Asia Program Manager. Project Coordinator, Travel Coordinator and Metabiota Qualified Trainers that will be tasked with specific assignments to support the development and implementation of training event based on their administrative and scientific expertise. This team of experts will ensure the overall project management and tasks associated with the training are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.



Initiation

Following guidance from CBEP CENTCOM leadership, and working collaboratively with trainers from Duke-NUS, and local collaborators from The Republican Governmental Enterprise "Microbiology and Virology Institute" Committee of Science of the Ministry of Education and Science of the Republic of Kazakhstan (RGE MVI CS ME&S RK), Metabiota will refine training materials originally deployed and presented at a CBEP PACOM bat-borne surveillance training course held at Duke-NUS in May 2014 to be adapted for this training. Prior to initiating any action, Metabiota and CBEP will secure a clear understanding of the objectives and mission of this undertaking, and make sure all stakeholders agree to it. Following technical direction and authorization to proceed by DTRA, Metabiota will move into the planning and execution of the training.

Planning and design

Completion of this task requires two training events, and a staged approach due to the short suspense required to implement the first training course. Metabiota will immediately focus on planning, designing and implementing Phase 1 training (June-July), which will consist of a practicum and hands-on field sampling. Following successful execution of Phase 1, Metabiota will implement Phase 2 (September) of the training, which will be laboratory based, and will consist of both lectures and conducting diagnostics on samples collected during the first event. Both events will be five to six days in length and will support a total of 34 participants at each event, however only ten of the participants will be selected to participate in the hands-on portion of the course, to ensure safety standards are maintained.

Metabiota will identify the required qualified trainers to facilitate the event from it's cadre of experts and will engage the trainers to develop a syllabus for each course, which will take into account regional sensitivities and religious requirements to ensure the course is conducted in alignment with regional practices. Following syllabi completion, Metabiota will adapt and refine training materials from a previously held 9-day CBEP funded bat-borne pathogen training course facilitated by Metabiota at the Duke-NUS campus in May 2014 for use. Training materials follow the FAO animal manual, "Investigating the role of bats in emerging zoonosis': Balancing ecology, conservation, and public health", but will demonstrate field surveillance and BSL-2 laboratory approaches where participants will get hands on experience at handling bats and camels, and taking samples. As materials are already generated and require minimal change to meet regional and training specific needs, Metabiota anticipates a quick turn-around for final documents, which will result in successful execution of the events. In addition to refining the materials, developing a syllabus to accompany the training and accommodating regional sensitivities, Metabiota will submit the required Training Event Plan (SOW Section 4.3, Task 3, CDRL A0006) with participant details to ensure all prior approvals are received before implementation.

In addition to designing the courses and adapting the materials, Metabiota will work with Duke-NUS and RGE MVI CS ME&S RK to determine in-country logistical needs to facilitate the

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training events to include travel and transportation, procurement of materials and supplies, conference arrangements, fit-testing, and other operational requirements necessary to ensure proper execution. To ensure local logistics are successfully managed, Metabiota will engage regional expertise at the very early phases of planning to facilitate all in-country needs. Metabiota will maintain communication with regional and country leads during all phases of planning, and implementation to ensure smooth operations and successful engagement.

Execution

The core project management team will maintain oversight and implementation of the project at all times and will ensure rapid execution of both training events, tracking objectives to ensure the project stays on schedule to complete the training exercises. The project will be managed according to the phased implementation plan and will be course corrected, as needed to ensure target end-goals are reached. The following tools will be used to guarantee the project schedule will be maintained:

Project Administration:

1. Weekly team meetings and conference calls will be held to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Coordinator and will include the PM, TC, Senior QTs and AEP leadership, as needed based on the requirements and stage of implementation.
2. Routine calls and communication via email will be held with CBEP regional leadership and Metabiota to provide routine status updates and ensure training implementation.

Project Reporting:

1. Weekly status reports will be provided by the PM to senior MB leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction, as needed to ensure training goals are met.

Monitoring and Controlling

1. Routine risk assessment will be performed internally among the MB project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with CBEP regional leadership to ensure the project remains on track and is implemented according to standard.
3. Routine oversight and coordination will be performed to ensure TMC is performing in-country logistical requirements to ensure successful execution of the training. Monitoring will include both administrative and fiscal oversight.

Completion

Maintaining a focused project schedule with routine meetings and communication with CBEP regional leadership allowing for continued coordination, while maintaining targeted objectives, Metabiota will drive the project to completion by the end of September with the delivery of two coordinated training events. Following completion of each training engagement, review, final

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validation, and a back-and-forth dialogue with CBEP regional leadership, Metabiota will provide required training trip report deliverables and after action reports to allow for lessons learned and continuation of solid execution and implementation of activities. Metabiota believes that the experience and management it will bring to this project, in collaboration with CBEP will guarantee success.

Technical Approach

Introduction

Emerging infectious diseases (EIDs) are a challenge for medical and public health infrastructures across the globe. Pursuant with the One Health Initiative, emergent pathogens are primarily zoonotic in origin, with interspecies zoonotic RNA viruses considered to be the primary etiological agent. Importantly, for many of these agents, wildlife often serves as the natural reservoir for known and unknown infectious zoonotic pathogens. For instance, bats are known to carry at least 11 virus families from which over 70 viruses have been isolated. Inclusive of this, bats appear to be the putative source for medically important viruses, including rabies, the Middle East respiratory syndrome (MERS)-and Severe acute respiratory syndrome (SARS)-coronaviruses, as well as Nipah and Henra viruses. In addition, camels are a known MERS reservoir. Exposure of incidental hosts, such as humans, to coronaviruses or paramyxoviruses can progress to infections with high morbidity and mortality for which the economic costs, including the associated burden of morbidity and mortality, lost tourism, revenue can number in the billions of dollars. The SARS outbreak alone is estimated to cost over $50 billion worldwide, demonstrating the need for proactive surveillance.

After the SARS outbreak in Asia and subsequent spread to North America, coronaviruses have been an area of focus to understand the virus ecology and evolution ascertain reservoir hosts and determine the transmission dynamics. The emergence of the MERS-coronavirus (MERS-CoV) and its associated acute respiratory illness in humans alerted scientists that of another potential pathogenic coronavirus. The virus was initially described in 2012 from a patient in Saudi Arabia and has since been recorded in 21 countries with over 700 laboratory confirmed cases. The primary means of human infection has been human-to-human transmission with associated cases of nosocomial transmission. The case fatality rate is approximately 30%, though a high number of fatalities have been associated with co-morbidities. The majority of cases lack data on the level of animal contact. MERS-CoV has a suspected intermediate animal reservoir, the dromedary camel, and the putative source of these infections is suspected to come from bats. Related coronaviruses have been identified in bats in Europe and South Africa. Neutralizing antibodies have been found in camels that came from Kenya, Spain, and Egypt, as far back as 1992, indicating a long standing infection course and not a recent cross-species transmission event into camel populations. The wide geographic distribution, continual evidence of human infection, density and abundance of intermediate reservoir hosts dictate that longitudinal surveillance programs should be established to monitor prevalence.

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Training

Training on MERS-CoV will insure that researchers have ample experience to undertake both field and laboratory experiments in animal and human populations following rigorous biosafety protocols. This proposed training incorporates two separate sessions. The first will focus on training for bat and camel handling and sampling, while the second will be setting up diagnostics for serology and antigenic material.

The first training course will be held from June 29 – July 3, 2015 and will primarily focus on the collection of samples from bats and camels and be five days in length. Participants will need to obtain specific prerequisites for testing, including; tetanus, hepatitis B and rabies vaccinations, N-95 respirator fit testing, and be fit enough to participate in field work. There will be one full day of lectures, followed by two half days of lectures and bat trapping. The fourth day will be a visit to sample camels. The last day will be lectures followed by another bat trapping visit. Participants will visit a site with high camel density to collect samples and also develop questionnaires for people working in high-risk areas (for example, animal handlers, abattoir workers). Three days will be used to learn about trapping bats, such as assessing field sites and setting up different types of bat traps/nets, understanding the basics of bat identification, removing bats from nets and safely handling bats, understanding different methods of marking bats, collecting different samples and maintaining an effective cold chain.

The second training session will be held from September 7-11, 2015 in Almaty, Kazakhstan at the International Science and Technology Center (ISTC), and will consist of lectures, theoretical aspects of MERS-CoV, and setting up laboratory diagnostics. It will be approximately five days with lectures covering the following thematic areas: a) Review of Coronaviridae, b) Properties of MERS-CoV, c) Cross-species transmission of coronaviruses definitive and intermediate hosts, d) Molecular virology and cell culture assays for MERS-CoV, e) Antigenic and serological detection assays, f) Clinical symptoms in humans and camels, g) Surveillance schema for MERS-CoV. The laboratory portion of this training will focus on setting up PCR and qPCR assays with positive controls and setting up ELISAs specific for MERS in camel and bat sera. Detection of the virus family Coronaviridae will also occur. The goal will be to test all of the samples collected between the first and second training for MERS. This will frame a manuscript for MERS surveillance and provide background data for a grant application to establish a longitudinal surveillance program.

After completion of the trainings, participants will be able to:

- Assess field sites and set up different types of bat traps/nets
- Understand the basics of bat identification
- Remove bats from nets and safely handle bats
- Safely sample camels
- Understand different methods of marking bats
- Collect different samples (oral and anal swabs, ectoparasites, blood, serum) and maintain an effective cold chain
- Establish an appropriate record keeping and labeling system for their needs

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- Determine how to process and screen samples based on the detection of expected and unknown pathogens
- Safely use a BSL-2 laminar flow hood to process samples
- Dissect a bat and remove tissues for pathogen screening
- Extract nucleic acid (manual and automated homogenization), set up PCRs based on virus family-specific primers, and analyze the results with gel electrophoresis

Communications Protocols

Metabiota will maintain open communications with international collaborators necessary for implementing the training, to include regional partners facilitating the training engagement and logistics. In addition, Metabiota will maintain routine communication with CBEP to ensure they have full visibility on the training engagement, status and process of execution.

Phases of Technical Approach

Phase 1: Development of Training Course to include Syllabus and Adaptation of Materials
Phase 2: Initiation of logistical requirements and procurement of materials/supplies necessary for training
Phase 3: Implementation of 1st training event with field sampling activities in June-July to include coordination of both local and regional travel
Phase 4: Implementation of 2nd training event with laboratory diagnostics in September to include coordination of both local and regional travel

There will be four phases to the technical approach. Phase One will be initiated immediately following technical direction and will involve coordination with Duke NUS qualified trainers to adapt previously used training materials, design the training syllabus, and identify the necessary materials and supplies required to implement the training. In addition to designing the training, Metabiota will work with CBEP and RGE MVI CS ME&S RK to identify the participants from local institutions and ensure they are available and meet the pre-requisites for training. Once the materials necessary for the training have been identified, Metabiota will immediately engage in procurement activities to ensure supplies can be procured and received in time for both trainings. This is the greatest risk to successful implementation of the training events, as Kazakhstan has an estimated 45-day clearance requirement for all international shipments. To mitigate this risk, Metabiota will engage TMC Global Professional Services to assist in procuring all supplies locally that can be obtained in country. TMC has provided support services to USG funded agencies and programs in the arena for over 20 years and has a proven track record in providing management and technical services within the region. For all items that cannot be procurement locally with TMC, Metabiota will work independently and in conjunction with CLS to secure the necessary materials and supplies. As the customs clearance process is extended in Kazakhstan and different supply lists are required for each engagement, Metabiota anticipates that procurement requirements and activities will last the duration of the period of performance.

Phase Three and Phase Four of the project will be the actual implementation of each training event, according to schedule. To ensure facilitation of each event, Metabiota will again enlist

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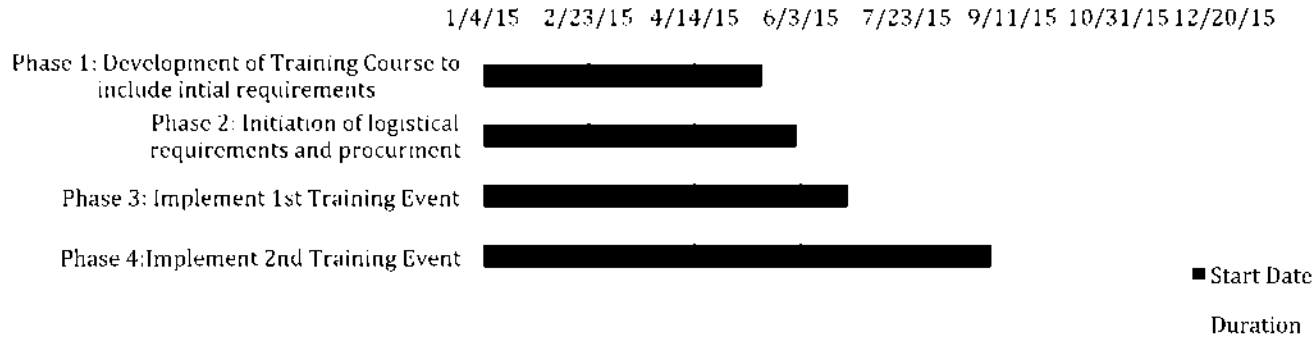
the services of TMC to provide logistical and operational management in support of the training. Metabiota will work jointly with TMC providing fiscal and administrative oversight to ensure they provide in-country transportation for all participants, per diem according to USG rates, conference and venue services, translation and interpretation services, as well as stipend support to participants in support of their curriculum development and research activities anticipated to occur following successful completion of the training. TMC's in-country expertise, understanding of local laws and customs, and regulations will ensure smooth management of the logistical requirements of this event.

Outside of logistical support for these phases, Metabiota`s engagement with Duke NUS faculty and researchers will ensure strong technical support and implementation of the these events. Duke NUS is a world-renown institute with state of the art facilities and a long-standing report in the research community. Trainers from Duke NUS have been responsible for two previously funded CBEP training courses, in collaboration with international experts from around the world and have built the baseline for the courses that will be conducted in Almaty. They have a proven track record that has resulted in improved biosurveillance and security practices, as well as the initiation of cross-regional collaborations, publications and scientific engagement fostered by the training events. With regional and local logistical expertise provided by TMC coupled with the technical expertise of Duke NUS, Metabiota is confident that the trainings will be a success.

Timeline



Phase 1 – Development of training course to include syllabus, adaptation of materials, list of materials/supplies and identification of participants (16 May – 20 June)

Objective: Adapt training materials for regional requirements and translation, identify trainers and participants, develop supply list for training, and initiate travel requirements

Process: Metabiota, in coordination with CBEP, Duke NUS, and local partners will ensure development, adaptation and approval of the training and associated materials, to include generating the supply list required for the trainings. This will also include travel authorization and CCR for all international travelers. Meatabiota will complete this requirement as close to CBEP deadlines as possible, acknowledging that technical direction was received outside of the standard timelines for approval.

Deliverables: Submission of the TEP, Travel Authorization and CCR.

Phase 2 – Logistics and Procurement (1 June – 15 September)

Objective: Engage TMC to provide logistical support for implementation of training events and procure the necessary training materials.

Process: Metabiota will engage TMC to provide the in-country expertise and local knowledge required to facilitate the training engagement to standard. Metabiota will oversee all TMC activities to ensure administrative and fiscal management of the operations. In addition, Metabiota will work with trainers and local collaborators to ensure initiation and implementation of all requirements leading up to the training, to include, procurement, travel, transport and coordination of the event.

Deliverables:

- Deliverable #1: Finalize supply list, determining what can be purchased locally and what will be procured internationally. Engage CLS as needed for procurement support.
- Deliverable #2: Work with local and international vendors to procure supplies and have them shipped or delivered to training location in Almaty.
- Deliverable #3: Work with TMC to identify location of conference, setup facilities, arrange local travel and other logistical needs required for implementation to include translation services. Ensure all arrangements are made in advance to support training engagement.

Phase 3 and 4 – Training Implementation (29 June – 30 September)

Objective: Conduct two training courses for 34 participants

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Process: Metabiota will engage TMC to provide the in-country expertise and local knowledge required to facilitate the training engagement to standard. Metabiota will oversee all TMC activities to ensure administrative and fiscal management of the operations. In addition, Metabiota will engage Duke NUS trainers and local collaborators to ensure expert technical implementation of the training engagement. Metabiota personnel will oversee Duke NUS trainers on the ground to ensure all training activities are executed.

Deliverables:

- Deliverable #1: Execute June-July training course focused on field sampling activities. Deliverable #2: Executed September training course focused on laboratory diagnostics.
- Deliverable #3: Provide training trip reports upon completion of training events according to CBEP guidelines.

Metabiota Key Personnel

(b)(6) Deputy Director

Mr (b)(6) is the Deputy Director of the Academic Engagement Partnership (AEP) Program and an Internationally Certified Emergency Manager (CEM®) with 14 years of experience leading, managing, and consulting on the full spectrum of Counter Weapons of Mass Destruction (CWMD) operations and Chemical Biological Defense programs, as well as research and development in support of joint task forces, special operations forces, other government agencies, and the Department of Defense on the strategic, operations, and tactical level. (b)(6) is a driven leader with a proven track record of building value with partners through the identification of capability gaps, and the development and validation of effective solutions to the unique challenges faced when dealing with Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) threats. In addition, he is well versed at risk analysis and management, strategic planning, policy analysis and political engagement.

(b)(6) Southeast Asia Regional Program Manager

Ms. (b)(6) is the Southeast Asia Regional Program Manager of the Academic Engagement Partnership (AEP) Program with over eight years experience as a global health project / program manager, with a focus in SE Asia regional activities, having lived and worked in Cambodia for four years supporting DoD efforts in the region. Since joining Metabiota in 2010, she has managed DTRA CBEP engagements in West and Central Africa, to include Ebola response efforts, as well as spending three years as the Program Manager on projects funded by USAID, AFHSC GEIS, BEP, NIH, USAMRIID, and HJF spanning all regions of Metabiota engagement.

(b)(6) Training Coordinator

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Ms. (b)(6) will be engaged as the Project Coordinator for this effort. She joins the team following completion of an MBA with experience in project controls, coordination, strong writing and editing skills and will bring a business approach to the project, keeping track of all deliverables, scheduling, and facilitating coordination with both internal and external stakeholders. In addition to her business expertise, Ms (b)(6) worked as a Data Technician and Interviewer for NIH/CDC sponsored studies, while completing her undergraduate work at Duke.

Qualified Trainers

(b)(6) - Course Director

(b)(6) received his BS in Entomology and Zoology from the University of Wisconsin at Madison and his PhD in Parasitology with a focus on vector borne infectious diseases from Department of Tropical Medicine at Tulane University. He was the laboratory manager for a large mosquito control company and his doctoral research focused on the transmission cycles of arboviruses between birds and mosquitoes, especially regarding the relative contribution of these individuals towards viral amplification and dampening.

As a Senior Research Fellow at Duke-NUS, his current work focuses on the ecology and evolution of novel and reemerging infectious diseases in different animal populations in Southeast Asia. He supervises and coordinates all the Duke- NUS pathogen surveillance efforts. His interest is in understanding how ecology and environmental variables impact the presence or absence of hosts (bats and small mammals), ectoparasites, and parasites in different habitats and their connectivity and isolation across different landscapes. He also is the insectary manager and works on arbovirus dynamics and vector competence in mosquitoes.

(b)(6)

(b)(6) received his BSc in Zoology from the National University of Singapore and an MSc in International Wildlife Trade and Conservation from the Durrell Institute of Conservation and Ecology at the University of Kent. He has varied research and conservation interests, which include human-primate commensalism, wildlife trade, conservation of mammals and sustainable use.

He has worked in National Parks Board (Singapore) (NParks) since 2000, and maintains a collaborative long-term study on the serology and bi-directional transmission of infectious agents in wild macaques with the National Primate Research Center at the University of Washington and the University of Notre Dame. His last professional appointment was Deputy Director (Projects) in the Conservation Division (NParks) before embarking on a PhD, which examines the urban ecology of bats in Singapore with the objective of understanding what factors determine bat diversity and activity in a highly urbanized landscape.

(b)(6)

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Dr (b)(6) primary training was in ecology and evolution at The University of Melbourne and he obtained his PhD at The University of Hong Kong in 2003, where he also undertook his post-doctoral training in the Department of Microbiology. Dr (b)(6) s an authority on the evolutionary aspects of influenza virus biology; especially at the human-animal interface and he has provided seminal studies on H5N1 viruses as well as the pandemic viruses of 1918, 1957, 1968 and 2009. In 2007 Dr. Smith was awarded a 7-year Career Development Award as part of the NIAID/NIH Centers of Excellence for Influenza Research and

Research in the Laboratory of Virus Evolution integrates ideas from a number of different fields including evolutionary genetics, virology, ecology, and infectious disease epidemiology. His research program is directed at efforts to better understand viral disease ecosystems in Asia, specifically the animal-human interface, to support rational implementation of disease control and intervention strategies. He conducts human and animal disease surveillance isolates and characterizes pathogens (genetic and phenotypic) and generates hypotheses that he then tests in the lab. He is primarily interested in the roles played by mutation, natural selection, recombination/reassortment and host immune response on virus diversity within an individual, during transmission within a population and during inter-species transmission between hosts.

(b)(6)

(b)(6) eceived her BSc in Biological Science (major in Zoology) and a MSc in Ecology from the Federal University of Bahia – Brazil. Presently she is doing her PhD at the National University of Singapore. Her project uses a combination of field surveillance, ecological analysis, laboratory diagnostics, evolutionary genomics, bioinformatics, and predictive modeling and mapping to identify pathogens present in Singapore small mammals.

She has 15 years of field and laboratory experience working with different types of mammals such as rodents, shrews and bats in South America and Southeast Asia. Her background includes different fields like ecology, behavior, evolutionary genomics and infectious diseases. Erica also has practical knowledge of animal welfare, laboratory and field safety procedures and Biorisk management.

(b)(6)

Prof (b)(6) s the Director of the Program in Emerging Infectious Diseases at Duke-NUS Graduate Medical School, Singapore. He also currently holds an appointment at the Office of Chief Executive (OCE) Science Leader at the CSIRO Australian Animal Health Laboratory (AAHL).

Having completed his Bachelor's degree in 1982 at the East China Normal University, Shanghai China, Prof (b)(6) went on to obtain his PhD at the University of California, Davis USA. His early research was at the Monash Centre for Molecular Biology and Medicine. In 1990, he joined the Commonwealth Scientific and Industrial Research Organization (CSIRO), Australian

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Animal Health Laboratory (AAHL) where he played a leading role in identifying bats as the natural host of the Severe Acute Respiratory Syndrome (SARS) virus. Recently, he led an

international team carrying out comparative genomic analysis of two bat species and discovered an important link between adaptation to flight and bat's ability to counter DNA damage repair as a result of fast metabolism and to co-exist with a large number of viruses without developing clinical diseases.

Prof (b)(6)'s work has been recognized internationally through various international awards, numerous invited speeches at major international conferences and many top scientific publications including, Science, Nature Reviews in Microbiology and the Proceedings of the National Academy of Sciences (PNAS), along with five patents and many invited book chapters. He holds a number of honorary positions and memberships and has received numerous awards such as the CSIRO Award for Excellence in Partnership in 2006 for establishing a rapid-response global research partnership that was instrumental in identifying the animal reservoir of SARS. In 2010, Prof (b)(6) was elected as a Fellow of Australian Academy of Technological Sciences and Engineering in recognition of his expertise in new and emerging diseases.

(b)(6)

(b)(6) earned basic biology during his B.Sc. studies at the Westfälische Wilhelms University in Münster, Germany and focused on cell signaling during mammalian development. He received his training in Virology at the department of Viroscience at Erasmus Medical Center Rotterdam, the Netherlands, during a M.Sc. degree program in Molecular Medicine. He was involved in experiments on the innate immune signaling of several Paramyxoviruses. He continued to work at the same institute during his PhD studies focusing on the transmissibility of zoonotic and pandemic influenza A viruses via the air using reverse genetics techniques and several animal models. His current research interests include the molecular characterization of viruses relevant for human health and the description of viral fitness parameters that play a role in pathogen evolution.

Cost Management

The Metabiota team and all partners will maintain an acute focus on cost management to ensure that the training is delivered at a reasonable cost to the government. Our team will provide full oversight of TMC to ensure accurate and responsive financial reporting and will facilitate cost savings to the Government wherever possible. Metabiota will follow procurement regulations ensuring the best price is received under the time constraints using all means available.

Budget Narrative

Period of Performance

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The Period of Performance for this effort is May 16, 2015 to September 30, 2015.

Labor

Costs for direct labor to support this activity is required for the following personnel:

Metabiota SEA Program Manager, (b)(6), to oversee and execute the training to include management of deliverables, logistics, procurement, tracking of project requirements, and implementation.

Metabiota Training Coordinato (b)(6) to assist in coordinating the training, to include assisting in management of deliverables, logistics, procurement, tracking of project requirements, deliverables and logistics.

Duke NUS Trainers 1, (b)(6), to assist senior trainers in facilitating the training event, to include adaptation of materials, syllabus input, assistance in both practicum and hands-on field sampling events ensuring an appropriate ratio of trainees to trainers reinforcing safe handling procedures.

Duke NUS Trainers 2 (b)(6), to oversee development of training materials and syllabus, implementation of the training to include delivering classroom training and conducting and overseeing field sampling activities, to include facilitation of scientific engagement.

Duke NUS Trainers 3 (b)(6) to supervise training coordination and development, review, develop and adapt training related documents and deliverables, provide coordination with select trainers, as well as general research activities and facilitation of scientific collaboration.

Additional costs for direct labor supporting the Deputy Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

Materials

Materials and supplies are required to support training efforts, to include training materials, bat capture and acoustic equipment, safe handling and bat capture supplies, PPE, bat and camel sampling supplies, laboratory reagents and consumables. Costs include shipping and customs clearance fees.

Translation Services are required to translate developed materials and provide interpretation services during the training events.

Conference Services are required, as a venue is needed for practicum section of the training events to house a total of 34 participants, 6 trainers, and additional Metabiota and CBEP

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personnel attending the event. Conference services will include on-site catering to facilitate completion of the training within an efficient timeframe. As some meals will be provided, the per diem rates for all attending will be reduced accordingly.

Fit Testing is required to fit N95 masks on all trainees participating in the field-sampling portion of the event. Fit testing will be conducted and overseen by (b)(6) in addition to local support services provided.

TMC Global Professional Services will provide in-country logistical support services to support the training events. Services provided will include transportation, translation, payroll services, conference facilitation and catering, procurement and customs clearance.

Participant stipends will be provided for a 3-month period to cover the time spent on building a training curriculum and developing research activities as a result of this training. Deliverables for this activity will be provided to and coordinated directly with CBEP.

Other Direct Costs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for trainers coming from Duke NUS for the period of performance for this engagement. Metabiota personnel performing on this project are already insured.

Subcontracts

A Subcontract will be issued to Duke NUS for time provided by their Trainers, as well as materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

At the request of DTRA, travel is required for (b)(6) Deputy Director of the AEP program and (b)(6) Southeast Asia Program Manager to travel to Almaty to oversee the implementation of the training.

Travel is requested to support all Qualified Trainers to facilitate implementation and conduct training activities in this effort. Trainers will be traveling from Duke NUS in Singapore to Almaty to conduct this training event.

Travel is also requested for 10 local participants based outside of Almaty that require support to attend the event.

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Conclusion

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP CENTCOM in the implementation of the Sample Collection and Diagnostics Training on Middle East Respiratory Syndrome (MERS-CoV) in Camels and Bats in Kazakhstan. Metabiota will ensure, through strong project management and risk mitigation that the training will be executed in an efficient and timely manner delivering a top quality course geared to support enhanced biosurveillance and biosafety efforts in the region.

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Metabiota's Technical and Cost Proposal

"DTRA/CBEP AEP Clinician Training"

Technical Direction Number: TD-008
Contract Number: HDTRA1-14-C-0104
CAGE Code (b)(4); (b)(6)
DUNS number

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Commented [TREC1]: Recommended redactions:

Exemption 6; USG personnel names and contact info

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Assessments Before and After Training

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Executive Summary

The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) has tasked Metabiota, Inc. through the Academic Engagement Partnership (AEP) contract vehicle with developing and delivering clinician training in Uganda. These events support accurate and rapid identification of infectious disease agents, which is an integral component of the disease reporting process and paramount for mitigation of epidemics. This initiative will support the preparedness and capabilities of clinical professionals operating in Uganda to reduce the threat of spreading causative agents of potentially dangerous diseases.

Detailed herein, the Metabiota team endeavors to fulfill this requirement through execution of continued training implementation of health practicioners in Uganda. Through the implementation of coherent training methodologies that are driven by on-the-ground experience and decades of expertise, as well as follow on engagements and deliverables, Metabiota is well positioned to support training activities and scientific engagement in the USAFRICOM's region of responsibility.

Project Overview

Introduction

Through AEP Technical Direction TD 008, DTRA CBEP tasked the Metabiota team to execute Clinician Training in Uganda. The overarching goal of the work outlined in this proposal is to bolster existing public health capacity in the region. The trainings outlined below will serve to improve the host countries abilities to detect, diagnose and report events with the potential to cause public health emergencies of international concern (PHEIC), especially those associated with U.S. Select Agents and Toxins, in accordance with World Health Organization (WHO) International Health Regulations 2005 (IHR 2005) and WHO African Regional Office (AFRO) / U.S. Centers for Disease Control (CDC) Integrated Disease Surveillance and Response (IDSR) systems.

District-level hospital workers require training in infectious disease detection and diagnosis in order to provide early notification of a potential PHEIC. District hospitals provide a substantial proportion of the initial emergency care and ongoing inpatient management of patients with infectious diseases. Strengthening the capacity of district clinicians to perform a differential diagnosis, and to use appropriate and available laboratory tests, will improve early reporting of diseases and, potentially, mitigate the risk of an epidemic.

Background

The Metabiota team understands that the US Department of Defense (DoD) initiated CBEP through DTRA in order to reduce the threat of biological outbreaks. The team further recognizes that to achieve its mission, CBEP works collaboratively with partner nations, U.S. Government agencies, and the international community to enhance disease surveillance capabilities; develop

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human resource expertise in public and animal health, promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner. Through the Academic Engagement Partnership (AEP) Program, Metabiota aims to support the CBEP mission of reducing the potential impact of biological threats through enhanced biological safety and security, awareness of biological risks, and knowledge related to biological pathogens.

In support of this approach, the Metabiota team, along with its partners, intends to administer high-value trainings that will support strategic CBEP objectives by strengthening the region's capacity to diagnose and detect diseases; thereby enhancing local management and mitigation of infectious disease events. The team's on-the-ground experience and decades of expertise makes us well positioned to support the implementation of these trainings and all of the associated activities, as well as scientific engagement in the AFRICOM's area of responsibility.

Purpose

The purpose of the Clinician Training requirement is to enhance the ability of Ugandan clinician's and healthworkers to recognize key diseases early, report them according to district and national protocols, and rapidly use laboratory support, as available, to confirm possible diagnoses. It is expected that this will help improve the timeliness of identification of unusual diseases and, ultimately, enable more rapid and better responses to disease outbreaks. Targeted training materials supported by on-site clinical mentoring, will assist in disease identification and reporting.

To accomplish this purpose, DTRA CBEP, through the AEP contract, will engage Metabiota and it's cadre of Subject Matter Experts (SMEs), Qualified Trainers (QTs), as well as project partners the IMAT/IMCI Alliance and Walimu, to implement the clinician training events in Uganda.

Objective

Metabiota will implement training activities in Uganda to bolster clinical capabilities for responding to and providing care for patients exposed to especially dangerous pathogens (EDP). Ensuring proper protocols are employed to manage potentially infected patients will ultimately mitigate the threat of further disease transmission. Investing in preventative clinical care capabilities will, ultimately, save lives and prevent potentially catastrophic economic outcomes, which can be associated with epidemics.

The project, initially approved in February 2015, included several objectives that have been completed (e.g., Objectives 1-3). This included adaptation of generic training materials and conducting gap analyses. All training materials previously provided to DTRA have been PAO approved, and have served as the foundation for implementation of training activities in Uganda (Objective 4).

Generic training materials provided via **Objective 1** serve as the foundation for training in all countries to be trained. However, it is recognized that each country may have unique needs related to endemic threats and their respective health care systems. **Objective 2** requires a gap

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analysis be performed, which will characterize the existing health care infrastructure and identify endemic threats, including pathogens on the U.S. Select Agent list and those of concern to overall public health. Leveraging this information, a country-specific adaptation (**Objective 3**) of the WHO AFRO/CDC IDSR, which fulfills IHR requirements for disease reporting, will be developed and, ultimately, implemented (**Objective 4**).

Threat Reduction Outcomes

The proposed project seeks to improve health care infrastructure within Uganda. Specifically, the clinician training program will train in-country health workers to recognize, respond to, and report pathogens, which could cause epidemics and result in significant financial burden. Early identification and response will mitigate potential loss of human life and economic burden.

In addition to improving response to general diseases of concern to the host country, these trainings will provide information relevant to preparedness and response to potential VHF (Viral Hemhorraghic Fever) exposure, including Ebola, Lassa fever, and Marburg viruses, all of which are EDPs (Especially Dangerous Pathogens).

Increased biosafety acumen when working with pathogens, particularly EDPs such as VHFs, is a cornerstone of CBEP engagement. As part of the VHF training, health workers will be trained to properly implement biosafety protocols, including dawning and doffing personal protective equipment (PPE), as required by the agent in question. All engaged countries will be trained to follow internationally recognized reporting measures. In addition, as part of the materials adaptation process, gap analyses of the host countries health care system, including previously implemented trainings, will be performed. The gap analyses will be presented as reports, and information presented within them will help all stakeholders (e.g., USG and host country ministries) understand potential areas of future engagement to further bolster the host countries capabilities.

Management Approach

Introduction

Metabiota will continue to employ its existing organizational leadership to interface with the Regional Science Manager, and Country Manager, as needed to direct the operational and administrative support required to ensure successful and timely execution of all Clinician Training events in Africa. Our Program Manager will maintain oversight of training execution, with the support of a travel coordinator, Research Collaborators and Subject Matter Experts to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Project Team Structure

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the Program Manager, Project Coordinator, Travel Coordinator and the Teams Research Collaborators and Subject Matter Experts that will be tasked with specific assignments to support the development and implementation of training events based on their

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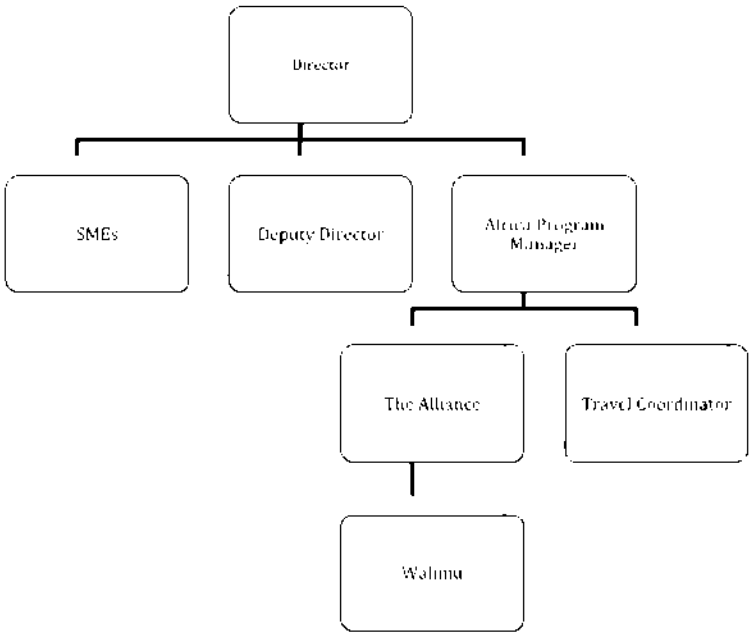
administrative and scientific expertise. This team includes experts from the Alliance and in-country implementer, Walimu. The Alliance and Walimu will utilize their in-country expertise and engagement with local stakeholders to ensure successful training events. Our team of experts will maintain the overall project management and tasks associated with the training are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.



Execution

The project management team will continue to maintain oversight and implementation of the project at all times and will ensure rapid execution of all training events, tracking objectives to ensure the project stays on schedule to complete the training exercises. The project will be managed according to the continual implementation plan and will be course corrected, as needed, to ensure target end-goals are reached. The following tools will be used to guarantee the project schedule will be maintained:

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Project Administration:

1. Weekly team meetings and conference calls will continue to be held to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Coordinator and will include the PM, SME, Scientific Mentor and AEP leadership, as needed based on the requirements and stage of implementation.
2. Routine calls and communication via email will continue with CBEP regional leadership and Metabiota to provide routine status updates and ensure training implementation.

Project Reporting:

1. Weekly status reports will continue to be provided by the PM to senior Metabiota leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction, as needed to ensure training goals are met.

Monitoring and Controlling

1. Routine risk assessment will continue to be performed internally among the Metabiota project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with CBEP regional leadership to ensure the project remains on track and is implemented according to standard.
3. Routine oversight and coordination will be maintained to ensure CLS is performing in-country logistical requirements, when necessary, to ensure successful execution of the training.

Completion

Maintaining a focused project schedule with routine meetings and communication with CBEP regional leadership allowing for continued coordination, while maintaining targeted objectives. Metabiota will drive the project to completion through the determined project end-date. Metabiota will provide the required deliverables of clinician training trip reports. Metabiota believes that the experience and management it will bring to this project, in collaboration with CBEP will guarantee success.

Technical Approach

Introduction

To facilitate effective training of health workers in Metabiota, and its partners the Alliance and Walimu, will employ the IMAI training materials, which are comprised of the following: 1) WHO IMAI District Clinician Manual (DCM), 2) pocket guidebook, and 3) Quick Check wall charts. The intended purpose of these materials is three-fold: to improve district hospital clinical management and surveillance of key notifiable diseases by the involvement and preparation of clinical teams for disease recognition; implement sustainable practices for case management of

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severely ill patients; and to ensure that proper reporting procedures are in place, which align with international standards (IHR).

Of particular importance, the training materials include the new WHO IMAI DCM, which outlines and provides reference for 1) triage training, 2) emergency treatments, 3) management of severely ill patients of any etiology, and 4) the clinician's role in surveillance of diseases with epidemic potential (called the Quick Check+ training curriculum). On-site clinical mentoring and quality improvement activities, as well as ongoing monitoring and on-site evaluations will further support training.

In addition to providing a simplified algorithm for emergency triage, assessment and treatment, and the ongoing management of severely ill adolescent and adult patients, the evidence-based WHO manual integrates the identification of notifiable, epidemic-prone diseases within a case management approach based on support for clinical reasoning using differential diagnosis. The manual's differential diagnosis tables include the important notifiable diseases with case definitions and a chapter on disease reporting, which lists all IDSR notifiable diseases and indicates the section of the IMAI DCM where they can be found. The disease-specific sections focus primarily on case definition, diagnosis based on clinical and laboratory features, guidance for specific empirical treatment(s) and supportive care, assessment of response to treatment, and instructions on when to report. Importantly, the IMAI septic shock guidelines have been incorporated into the viral haemorrhagic fever (VHF) pocket guides, which will be used in VHF epidemic-prone areas of East and West Africa.

Derived from the IMAI DCM product is a participatory training course, Quick Check+, which addresses emergency triage and treatments for adults. This course trains the clinical teams to support the triage, emergency management, and infection prevention and control of severely ill adolescent and adult patients, who present with severe acute respiratory infections, VHFs, or other communicable diseases. The short disease surveillance course and reporting training module, used within the clinical training course, has the advantage of effectively engaging busy clinicians and hospital managers for disease reporting and has been very well received in this context. Training all relevant cadres (nurses, managers, and auxiliary staff, in addition to district clinicians such as medical doctors, general practitioners or other senior clinical cadres) within the district hospital helps ensure implementation after training utilizing the following:

- Engaging hospital managers who are key in planning and supporting the budget and organization requirements for improved care and reporting
- Recognizing the important role of senior clinical nurses in providing care during most hours of the day
- Supporting the role of auxiliaries in their contacts with patients, triage, and community linkages

The interventions will be implemented through the following mechanisms:

- Provision of country-adapted guidelines (country-adapted versions of the WHO IMAI DCM and Hospital Care for Children) to participating healthcare workers;

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- In-service training;
- Mentoring/quality improvement interventions on a regular basis after training, with mentors able to address both pediatric and adult care, infection control, and disease surveillance issues.

The approach encompasses a combination of two training activities for the participatory Quick Check+ training for clinical teams: a four-hospital clinical team training and in-hospital training for the entire clinical staff in a single hospital. Importantly, integration of these trainings will be done in a manner that will not overwhelm recipients and in a way that will be sustainable by health care systems within respective countries. In addition to implementation of trainings a follow-up mentoring schedule will be determined based on the needs of a given country.

Training Implementation

Since the initiation of this effort in early 2015, eleven training events and mentoring visits have occurred that include regional trainings of up to 4 hospital teams, and Train-the-Trainer activities. The average training has encompassed 33 participants and has been comprised of clinicians, nurses, and hospital administrators. Regions within Uganda that have hosted these trainings include Hoima Regional Referral Hospital, Mubende Regional Referral Hospital, and Kiboga General Hospital.

An additional 25 training events utilizing the IMAI Quick Check+ materials have been scheduled throughout Phase 1 (11 events) and Phase 2 (14 events) periods of performance (Table 1), encompassing Regional, In-hospital, and Train the Trainer (TOT) activities. Many of the Regional trainings run concurrently encompassing a pre-defined Region One and Region Two cohort of participants.

The Regional and In-Hospital courses will be conducted in several classrooms for managers, district clinicians, nurses and auxiliaries, with the clinical team from each hospital. Practical sessions will include putting on personal protection equipment, case scenarios with expert patient-trainers, and facilitation skills. During the initial training event, potential future trainers will be identified based upon their test scores and competency in the practical sessions. These participants will receive Train the Trainer instruction during a unique training event. The overall goal of the the TOT training is to increase the pool of competent hospital and regional facilitators in which the Quick Check+ course may be independently provided, thus improving the region's capacity for disease detection and treatment.

The schedule and cost proposal include training events for May, June, and July, which have been previously scheduled and approved. At the time of proposal development and submission (10 June 2015), the May training events (2) had been completed and implementation of the first June training event had begun (8 June 2015). To this end, of the 11 scheduled training sessions for Phase 1, three were completed or underway, leaving eight remaining events. At this time, Training Event Plans have been submitted and approved for all remaining scheduled trainings shown in Table 1.

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Table 1. Updated Training Schedule

Phase	Start Date	End Date	Activity (ToT, Regional, or In-Hospital)	Region	Number of Hospitals to assess/train	Location	Facilities
1	20-May-15	23-May-15	ToT	Arua	NA	Arua RRH	NA
1	25-May-15	29-May-15	Regional	Arua	5 hospitals	Arua RRH	Arua; Koluvo Church of Uganda; Holy Family Hospital Nyapea; Angal St. Luke's; Nebbi
1	8-Jun-15	12-Jun-15	Regional	Arua	4 hospitals	Arua RRH	St Joseph's Maracha, Yumbe; Moyo; Adjumani
1	6-Jul-15	10-Jul-15	In-hospital	Rwenzori	1 hospital	Fort Portal RRH	Fort Portal RRH
1	23-Jul-15	25-Jul-15	ToT	Kabale	NA	Kabale RRH	NA
1	27-Jul-15	31-Jul-15	Regional	Kabale	4 hospitals	Kabale RRH	Kabale RRH; Rugarama, Kambuga; Bwindi
1	27-Jul-15	31-Jul-15	Regional	Kabale	4 hospitals	Kabale RRH	Kisoro; Mutolere; Kisiizi; Nyakibale
1	6-Aug-15	8-Aug-15	ToT	Mbarara	NA	Mbarara RRH	NA
1	10-Aug-15	14-Aug-15	Regional	Mbarara	5 hospitals	Mbarara RRH	Mbarara RRH; Ibanda; Itojo; Ishaka Adventist; Mayanja Memorial
1	10-Aug-15	14-Aug-15	Regional	Mbarara	4 hospitals	Mbarara RRH	Comboni; Kitagata, Kuharo Mission; Rushere Community
1	27-Aug-15	29-Aug-15	ToT	Gulu	NA	Gulu RRH	NA
2	31-Aug-15	4-Sep-15	Regional	Gulu	4 hospitals	Gulu RRH	Gulu RRH; Kalongo; Lacor; Gulu Military
2	31-Aug-15	4-Sep-15	Regional	Gulu	3 hospitals, 1 HC IVs	Gulu RRH	Kitgum, St. Joseph's, Anaka
2	24-Sep-15	26-Sep-15	ToT	Masaka	NA	Masaka RRH	NA
2	28-Sep-15	2-Oct-15	Regional	Masaka	4 hospitals	Masaka RRH	Masaka RRH; Villa Maria; Lyantonde, Kitovu
2	28-Sep-15	2-Oct-15	Regional	Masaka	2 hospitals, 2 HC IVs	Masaka RRH	Rakai, Kalizo, Kalangala HC IV; Ntuusi HC IV
2	22-Oct-15	24-Oct-15	ToT	Lira	NA	Lira RRH	NA
2	26-Oct	30-Oct	Regional	Lira	4 Hospitals	Lira RRH	Lira RRH; Amai; Apac; Aber
2	26-Oct	30-Oct	Regional	Lira	4 HC IVs	Lira RRH	Amach HC IV, Dokolo HC IV, Aboke HC IV; Orum HC IV
2	9-Nov	13-Nov	In-hospital	Kabale	1 hospital	Kabale RRH	Kabale RRH
2	26-Nov	28-Nov	ToT	Kampala	NA	Naguru RRH	NA
2	30-Nov	4-Dec	Regional	Kampala	5 hospitals	Naguru RRH	Kayunga; Nkokonjeru; Nkozi, Bombo
2	30-Nov	4-Dec	Regional	Kampala	5 hospitals	Naguru RRH	Naggalama; Nakaseke, Nakasongola; Entebbe
2	11-Jan	15-Jan	In-hospital	Mbarara	1 hospital	Mbarara RRH	Mbarara RRH
2	1-Feb	5-Feb	In-hospital	Gulu	1 hospital	Gulu RRH	Gulu RRH

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Communications Protocols

Metabiota will maintain open communications with international collaborators necessary for implementing the training, to include regional partners facilitating the training engagement and logistics. In addition, Metabiota will maintain routine communication with CBEP to ensure they have full visibility on the training engagement, status and process of execution.

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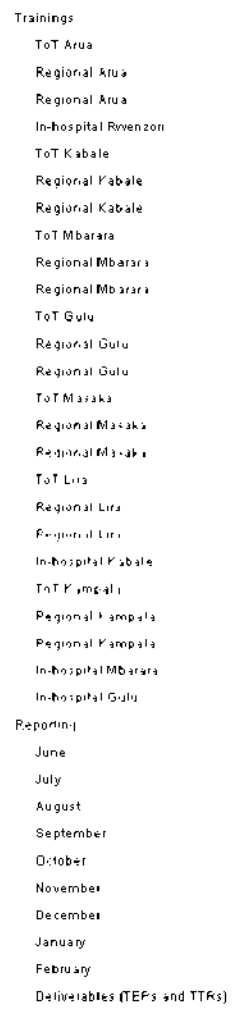
Timeline



Deliverables

- Submission of the TEP, Travel Authorization and CCRs for each training event.
- Submission of TTRs (Travel Trip Reports) five days after training completion.

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Risk Management

In order to maintain course action and guarantee trainings that will reduce regional risk and forward CBEP's mission, Metabiota must overcome the obstacles included (but not limited to) those listed below:

Risk Factor	Description	Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
Cost						
Technical Direction NTE Ceiling	The current budget with events, travel, management, procurement, and execution will exceed the ceiling for the technical direction	5	4	(b)(4); (b)(6)	Metabiota will monitor costs and work diligently to seek out the lowest costs possible for procurement and travel, as well as mitigate extended labor hours during events	**Med-High**
Inadequate funds to meet end-state program objectives	Per the LOTD, Metabiota is only to propose activities through August. The Alliance has developed a comprehensive training schedule to ensure information is effectively dissiminated and institutionalized	4	4		A subsequent budget has been proposed, allowing the Alliance to continue trainings through February. Approval of this budget would allow for additional trainings and post training mentoring/evaluations to occur.	Med
Schedule						
Submission of CCRs and TEPs	The CCR deadline is 45 days prior to travel and the TEP deadline is 60 days prior	2	5	**Med-High**	Team shall adhere to all State Department travel safety guidelines for each region.	(b)(4); (b)(6)
Project Coordination	Team dispersed over several timezones engaged in execution of training and mentoring events. Many events occuring per month	3	4	**Med-High**	Hold routine calls with regional and country leadership, and collaborators, as needed to understand and implement technical requirements and ensure communication across the training events. Continually capture lessons learned to build upon effective communications.	
Performance						

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Safety and Security	Regions of Africa are considered a high threat for terrorism. Crime is a consistent threat.	3	5	**Med-High**	Team shall adhere to all State Department travel safety guidelines for each region.	Med
Logistics Coordination	There are a lot of moving pieces to get all equipment, trainers, facilities, and trainees in position to execute training on the required timeline	3	4	**Med-High**	Communicate with CLS frequently to ensure in-country support is achieved, with local vendors.	(b)(4); (b)(6)
Unified Goals	Ministries of Health and Regional CDC and other NGOs differ in independent objectives and scope.	4	3	Med	Metabiota will engage all local Ministries and Organizations as groups and individually, to ensure communication and unification of objectives	
Participant Engagement	Several cultural differences exist in Africa that impact their ability to engage. These differences include. expected renumerations. levels of accomodations, and gender disparities.	3	3	Med	Metabiota will research each country and region that activities will occur to determine presence of cultural uniquenesses, and strategies to overcome potential obstacles to participant attendance.	

Identifying and acknowledging the risks associated with not implementing this training, as well as capturing the risks associated with conducting and completing it, to include contingency planning and course correction measures will lead to overall regional risk reduction, as outlined in the Risk Management Matrix (above).

Cost Management

The Metabiota team and all partners will maintain an intense focus on cost management to ensure that the training is delivered at a reasonable cost to the government. Our team will ensure accurate and responsive financial reporting and will facilitate cost savings to the Government wherever possible. Metabiota will follow procurement regulations ensuring the best price is received under the time constraints using all means available.

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Budget Narrative

Period of Performance

The technical narrative captures activities required to effectively bolster capabilities of clinical personnel working in hospitals throughout Uganda. A period of performance has been proposed, which exceeds guidelines presented in AEP Letter of Technical Direction 008 (TD-008). To this end, Metabiota has provided two budgets: 1) Captures activities defined by TD-008 (ending 31 August 2015) and 2) Optimal period of performance to accomplish end-state objectives (ending 28 February 2016)

Labor

The labor budget is focused on overall program management, material enhancements, training, mentoring and monitoring after training in an effort to expand improvements in case recognition, reporting, clinical care and infection control to more hospitals.

The Alliance brings a wealth of clinician training experience, which is specialized for working in the developing world. Given the relative newness of this organization and considering their origins were based out of non-governmental organizations, the Alliance will require assistance navigating aspects of coordination with the Prime contractor (Metabiota) and the Client (DTRA), including program management, scheduling of training activities, and Contract Data Requirements Lists (CDRL; Training Event Plans, Training Activity Reports, Monthly Progress Reports, etc). To this end, Metabiota is proposing a program management team, consisting of Program and Training Managers, to continue supporting the Alliance with implementation of objectives in Uganda, as outlined within this scope of work.

Costs for direct labor to support this activity is required for the following personnel:

Program Manager(s): All aspects of program operations and administration, material adaptation, management of training, and implementation will be overseen by the Program Managers (PM) for Metabiota and the Alliance. The PM's will manage cost, schedule and performance of the program, including all required DTRA CBEP deliverables.

(b)(6) (Metabiota Program Manager): Of the 740 PM hours proposed, 148 hours were proposed for Mr.(b)(6) This estimate is based actual hours charged for Clinician Training through the AEP base period. Mr.(b)(6) is responsible for ensuring that all performers are compliant to the Department of Defense regulations (e.g. FAR). Additionally, Mr.(b)(6) is responsible for the managing submission of all programmatic deliverables (e.g. CDRLs), and is also tasked with monitoring the performance of the subcontractors (e.g., Alliance and Walimu), ensuring that the CLS requests are submitted for trainings, communication and approval of all

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travel requests from the subcontractor.

(b)(6) (Alliance Program Manager): Of the 740 PM hours proposed, 592 hours were proposed for Ms. (b)(6) This estimate is based actual hours charged for Clinician Training through the AEP base period. Moreover, the proposed hours will support the Alliance's management of in-country training and coordination with their local partner Walimu, as well as other Ugandan stakeholders. Additionally, Ms. (b)(6) serves as the interface between Alliance and Metabiota as well as the interface between Alliance and Walimu. She is tasked with ensuring that the trainings stay within budget, on schedule, and within scope. She will also be responsible for the management of documentation and provision of deliverables – including monthly reporting and invoicing.

SME III, II and I: In preparation for training delivery and implementation in Africa, Metabiota Program staff will work closely with Dr. (b)(6) and her team, which include a cache of physicians with decades of experience operating within Africa, on collaborations and engagements with the MoH of Uganda. Dr. (b)(6) 's team of SME's will engage with the in-country subcontractors, "Walimu", for further competency building. Using their in-depth scientific and medical expertise, our SME's will review and provide input to training reports and materials.

SME 3 (3 individuals): Drs. (b)(6) hours are based upon a calculation of the technical requirements for assistance at each step of the introduction and implementation process for regional training events in Uganda.

In addition to their implementation responsibilities, SME 3s are tasked with the ongoing adaptation and re-development of training materials. These individuals bring a significant depth of clinical expertise and experience in clinical instruction, training, and mentoring. Their estimated labor breakdown is as follows:

Dr. (b)(6) 332 hrs
Dr. 22 hrs
Dr. 222 hrs

Dr. (b)(6) has spent the majority of his time, since 2006, working as a researcher, instructor, and clinician in Uganda. His primary research focus is on the management and pathogenesis of patients hospitalized with sepsis syndromes, primarily at two Ugandan government hospitals – Mulago National Referral Hospital and Masaka Regional Referral Hospital. In addition, he has been a consultant for WHO working and writing groups, which focus on improving the management of critically ill patients in austere settings. Dr. (b)(6) will bring hands-on regional experience and mentor local clinicians, in addition to serving as a core trainer, to the program.

Dr. (b)(6) is an emergency medicine doctor and is affiliated with Maimonides Medical Center. She received her medical degree from University of Michigan Medical School and has been in

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practice for 15 years. In addition to serving as a core trainer and mentor, Dr (b)(6) will be involved in the continuing adaptation of the Quick Check+ training program by incorporation of regional knowledge from participants

Dr. (b)(6) serves as the Director of Research and Global Emergency Medicine at Carolinas Medical Center. Since 2009, D (b)(6) has provided leadership and support for the development of emergency medicine in Sub-Saharan Africa. This effort included training and bedside teaching of dozens of local physicians and nurses at Muhimbili National Hospital in Tanzania. Dr (b)(6) will provide clinical quality control expertise, planning, and training evaluation to the training program.

SME 2 (2 individuals): Drs (b)(6) 's hours are based upon the calculation of the instructional requirements for the training events. Their estimated labor breakdown is as follows:

Dr. (b)(6) 444 hrs (75%)
Dr. 148 hrs (25%)

Dr. s an assistant professor of clinical tropical medicine in Tulane's Department of Tropical Medicine, but is based in Lima, Peru. She has been working with the World Health Organization and spent part of September 2014 traveling to Sierra Leone to provide technical assistance in Ebola case management and training. In addition to functioning as a core trainer, she will continue to develop clinical training materials to improve the training and safety of health workers in Uganda in this program.

Dr (b)(6) s a pediatrician and is affiliated with multiple hospitals including Northridge Hospital Medical Center and Providence Holy Cross Medical Center. She received her medical degree from Allegheny University of the Health Sciences and has been in practice for 17 years. She has worked with the Alliance team since 2004, initially in the development, field-testing and scale up of the learning program in Uganda. Dr (b)(6) involvement also will include training doctors, nurses, managers and auxiliary staff working at the district hospitals.

SME 1 (3 individuals/Local Nationals): Drs. (b)(6) and (b)(6) s hours are based upon the number of proposed training event days, as they will serve as lead local trainers for the implementing Alliance partner in country "Walimu".

Commented [TREC2]: Recommended redactions:

Exemption 3 (10USC130c)
Foreign partner names and titles

Dr (b)(6) is a pediatrician and a public health specialist. He served as the Director of Health Services for the Ministry of Health Uganda. He has worked as a Lecturer in the Dept. of Pediatrics and child Health, Makerere University Uganda, and is the President of Uganda Medical Association. Dr. (b)(6) serves as a lead instructor for train the trainer (ToT) events and evaluates student's performances on clinical exercises.

Drs (b)(6) are both local physicians and health specialist

in Uganda. They will serve as lead trainers for regional trainings.

Scientific Mentor: Assistance with overseeing the training events, mentoring local nationals, and providing recommendations for additional material content will be guided by the Scientific Mentor. As a leader in their field, the Scientific Mentor will support collaborations between groups both regionally and internationally. On mentoring visits, the Scientific Mentor will work with hospital staff and administrators to identify barriers to reporting notifiable conditions and to improve triage of severely ill patients and their effective case management.

Research and Data Analyst: Support of the programs' research, data entry and analysis will be provided by the Reseach and Data Analyst (RDA). The RDA will also support material and deliverable production and submissions. Organization of program documents, and archiving of materials will be an important responsibility of the RDA. The RDA will also assist in the management of internal and stakeholder meetings and execution.

(b)(6) Research and Data Analyst; RDA): Ms. (b)(6) will be instrumental in supporting project coordination and objective completion for Metabiota. Ms. (b)(6) will serve as a point of contact to facilitate daily communications with performance subcontractors, as has been required atsupporting the project's logistics, communications, and deliverable production. These hours are required for supporting the production, submission, and archiving of all program documents. In addition to these responsibilities, Ms. (b)(6) will regularly brief and coordinate with the program manager to ensure schedule adherence. Lastly, Ms. (b)(6) will liaise with Metabiota's Travel Coordinator to provide information garnered through communication with the Alliance and Walimu to support project implementation. Execution of all travel logistics (e.g., booking flights, ground transportation, lodging, securing visa's, etc.) falls within the scope of Metabiota's Travel Coordinator.

Additional costs for direct labor supporting the Deputy Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 Program Management Office.

Collectively, the aforementioned personnel will coordinate efforts to support the following activities:

Training and Mentoring After Training

A substantial number of training courses will be carried out using several approaches to training – a training for clinical teams from district hospitals (usually at the regional hospital), in-hospital training for larger hospitals. Several facilitator ToT short courses would be conducted for 3 days prior to clinical team training.

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Training Reinforcement: Mentoring and Physical Improvement to Improve Care and Notification Process

Facilitators on mentoring visits will work with hospital staff and administrators to identify barriers to reporting notifiable conditions and to improve triage of severely ill patients and their effective case management. Examples of physical improvement which fit within a modest budget include adding signs and trolleys to improve patient flow in the emergency area, physical modifications to isolate infectious patients and locate severely ill patients near the nursing station, adding secured blood pressure cuffs and thermometers to identify severely ill patients, and tools such as clipboards and notice boards to ensure records are retained and organized for accurate reporting. Clinical training facilitators and Alliance staff will deliver the package of hospital improvements and ensure staff are capable of conducting case notification through the Uganda DHIS 2 health management information system.

Assessments Before and After Training

Facility assessments use a standardized questionnaire and surveyor observations, which complement the WHO/USAID SARA-H hospital assessment (which lacks questions on adult emergency triage and management of adult severely ill patients). In addition, an on-site clinical observer with data entry capacity will conduct case observation and observe success in reporting notifiable diseases and improving case management at the hospital before and after the training. Data will be collected on low-end smartphones and reported through Commcare, a tool used by the WHO, Brac, PATH and Partners in Health among others and supported by USAID and the UN and Gates Foundations, among others. The data is analyzed using the DHIS 2 software, a health management information system used by the MoH in Uganda.

The Alliance is committed to capacitating national staff and supporting their substantial role during in-country project management, as well as, utilizing them as a source of subject matter expertise and clinical facilitation and mentoring.

Materials

Communications

Cost for international cell phone services and data plans, airtime for project staff, laptop modems for country team laptops required to establish a reliable and stable Internet connection for reporting and other online needs, to include maintaining communication in remote areas.

Printing

Printing of all necessary training materials will be managed by Walimu and the Alliance.

Office and Medical Training Materials

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These materials, supplies, and minor equipment will be used for implementing training, as well as programmatic coordination between management in the US and Kampala, Uganda. Minor office supplies include computer equipment such as laptops, docking stations, large screens, printers, scanner, photocopier, and software.

Each trained clinical team is provided with a pulse oximeter for individual clinical use/further training of other clinicians in hospital and a hospital-grade pulse oximeter with replaceable probes. No single piece of equipment exceeds $5,000.

The aforementioned items were used during training sessions that have been previously implemented. However, additional Tablets are procured for each new training site. As discussed in the Training Event Logistics (below) and depicted in the Project Timeline (above), training for three regions (rows 2-8 Project Timeline) have been or will be completed. Additional equipment will be required for implementing trainings in new regions (rows 9-12 – Project Timeline) of Phase 1. Additional equipment will be required if/when approved to implement activities beyond August (e.g., Phase 2).

The provided tablets contain an eBook version of all training materials, including the VHF pocket guide, as well as applicable photos and charts, which were employed for the training event at each hospital. The tethering is required to discourage theft and illegal resale, as Uganda has a significant amount of criminal activity. The intended disposition of the property is that it remains with each designated hospital to support the technical collaboration needed for ongoing learning and back up, in addition to mentoring visits.

Training Event Logistics

Conference Services are required, as a venue is needed for practicum section of the training events to house participants, trainers, and additional Metabiota and CBEP personnel attending the event. Conference services will include on-site catering to facilitate completion of the training within an efficient timeframe.

To date, the Alliance managed all training costs, including venue, food, per diem, transportation (for facilitators and participants), training supplies, projectors, communication costs, and all printing needs as well as their shipment and clearance into country and delivery to the training venues, as allowed in the originally approved proposal. Metabiota will transition the training logistics costs to CLS for scheduled August trainings, as well as all Phase 2 trainings, if approved/awarded. However, June and July training events have been scheduled and approved, making the involvement of CLS challenging due to an extremely short suspense.

Phase 1 (16 May – 31 August) includes 11 unique training events occurring in 5 regions of Uganda (rows 2-12 – Project Timeline). All trainings within the regions of Arua, Rwenzori, and Kabale (rows 2-8 – Project Timeline) have been or will be completed without the utilization of CLS, as was approved in the original proposal. Metabiota submitted their response to the

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Letter of Technical Direction 008 (Clinician Training in Uganda) on 10 June 2015. Due to the compressed timeframe associated with proposal development and submission, and to ensure continued implementation of training events prior to August, Metabiota budgeted for support of five training events (e.g., all June events). The aforementioned costs would cover logistical support services due to the compressed schedule of execution. Transitioning in-country logistical support to CLS in August allowed for compliance with regard to development and submission of the necessary CLS forms. CLS will be utilized for logistical support services of Mbarara and Gulu trainings, encompassing 4 trainings in two locations (rows 9-12 - Project Timeline). Implementation of any/all Phase 2 training events would leverage CLS for in-country logistics support.

Shipping costs

All materials procured within the US will be shipped to Uganda via CLS' Single Shipper mechanism. Shipping costs for movement of training materials and supplies generated or procured in Uganda have been budgeted and will be managed by Metabiota, the Alliance, and Walimu.

Other Direct Costs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA costs were based o(b)(6) f the total compensation for all personnel when operating in Uganda.

Subcontracts

A Subcontract will be issued to the Alliance for time provided by their Trainers, as well as materials and supplies they will procure in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget. A detailed description of labor hours associated with the Alliance subcontract, as they relate to Program Management, Material Development and Adaptation, and Training Implementation can be found below:

Program Management (Alliance)

Of the 5,180 hours proposed under Training Material Development, Adaptation, and Implementation, 1,036 hours were budgeted for Alliance Program Management, which will include management and oversight of all Alliance programmatic responsibilities. The remaining 4,144 hours were budgeted specifically for Development and Adaptation, and Implementation, as described below.

Development and Adaption (Alliance)

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Training materials have been developed; however, as real-time feedback is received from ongoing trainings, the Alliance and Walimu are identifying potential gaps in information, which require some level of further development (or adaptation).

Of the hours proposed, ~444 hours were budgeted for further adaptation of training materials (see SME 3 narrative below). They will utilize course surveys and interview sessions with participants to adjust for regional relevance regarding the training materials. These activities will take place throughout the PoP and will be executed in real time.

Implementation (Alliance and Walimu)

Of the hours proposed, ~3700 hours were budgeted for implementation of training activities. Briefly, the (2) SME 2s and the (3) SME 1s will focus 100% of their labor on the implementation of the training materials; to include lecture session, workgroup exercises, pre and post testing of participants, and collection of the surveys. Of note, Dr. (b)(6)'s hours (1,332 SME 3 hours) were budgeted to support both adaptation and implementation activities, but included to the 3,700 hours for training implementation.

A breakdown of hours allocated between the Alliance and Walimu can be found below:

Phase 1 (PoP 16 May - 31 August)

Alliance: 2073 hours
- 1036 hrs Alliance Program Management
- 1037 hrs SME Hours budgeted for continued implementation / adaptation, as needed, of training materials

Walimu: 3108 hours
- Estimated hours required for implementing all scheduled trainings through August.

Phase 2 (PoP – 1 September 2015 - 28 February 2016)

Alliance: 2733 hours
- 1560 hrs – Alliance Program Management
- 1173 hrs – SME – Hours budgeted for continued implementation / adaptation, as needed, of training materials

Walimu: 4255 hours
- Estimated hours required for implementing all scheduled trainings through February.

Overall, Metabiota will be responsible for the contracting component of this effort – ensuring DTRA compliance of our in-country performers.

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Travel

Travel is requested for Metabiota and Alliance personnel to travel to and within Uganda to continue implementation of clinician training activities. Personnel will be providing programmatic, administrative, operational, and technical ovesite (as described in the Labor Section of this narrative) to ensure trainings are implemented efficiently. Updated budgets for Phase I and Phase II have been submitted with this proposal to reflect anticpated travel needs associated with project implementation. Prior to execution of travel, a cost estimate will be provided to the AEP COR for review and approval.

The eight trips proposed for Metabiota align with training events that occur in every location (two locations will be used as training grounds twice – Gulu and Mbarara). Metabiota will be visiting each training sight once to ensure the maintenance of compliance to DOD regulations at each site.

For each event, two travelers from Metabiota will attend, with one traveler from the Alliance. The specific purpose of attendance by Metabiota is to ensure programmatic oversight and execution. One program manager and one SME/Trainer will attend and provide daily reports on the training, which will be consolidated into each Training Trip Report (TTR). The Alliance will send a program manager to oversee the trainers and the coordination of each event.

The trips differ in length due to the trainings that will occur at each region. For example, many events include two regional sessions, and also a Train the Trainer session, and will be longer than an event that is only in-hospital training.

Metabiota will submit CLS forms requesting travel logistics support when, and if, it is required for project participants (e.g., Trainees).

Conclusion

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP AFRICOM in the implementation of the Africa Clinician Training. Metabiota will ensure, through strong project management and risk mitigation that the training will be executed in an efficient and timely manner delivering a top quality course geared to support enhanced biosurveillance and biosafety efforts in the region.

Team Metabiota Overview

Metabiota is the pioneer in comprehensive risk analytics that improve the world's resilience to epidemics. Built on a strong foundation of epidemiology and international field science, including a worldwide network of on-the-ground experts, Metabiota delivers actionable, data-driven insights that help countries, governments and corporations manage and mitigate

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infectious diseases. With a strategic global presence and sustained partnerships, Metabiota's agile approach is helping the world track, transfer and terminate the risk associated with epidemic threats. The company's international footprint includes operations in 20 countries and offices in San Francisco, Washington, China, Canada, and Sierra Leone.

Metabiota currently supports a number of Cooperative Biological Engagement Program (CBEP) initiatives, including the Academic Engagement Partnership (AEP) Program, the Biological Threat Reduction Integrating Contract (BTRIC) in Ukraine, and grants in Tanzania to perform research activities. Metabiota's mission aligns well with CBEP and the entire Metabiota team is focused on supporting our USG Partners in reducing the risk of biological threats worldwide, and employs a collaborative and agile approach to biological risk reduction.

To ensure a successful event, Metabiota, in coordination with CBEP regional leadership and in country partners have built a team that brings unparalleled scientific expertise and unique access across the international infectious disease prevention, preparedness and response community. This enables us to be an incredible resource for actionable infectious disease intelligence, through the development of analysis methodologies that capture salient data relating to human and animal pathogens of concern, organic national and regional public health capacity, engagement priorities and constraints for the USG, regional and international public health organizations, and non-governmental organizations (NGO) whose respective aims could impact CBEP objectives.

Metabiota will continue to engage the Alliance for implementation of the aforementioned objectives. TheAlliance is a US based non-profit non-governmental organization (NGO), which includes institutions and individuals involved in the development, country adaptation, and implementation of the IMAI training materials, which aim to improve disease recognition, case management of severely ill patients, and reporting of notifiable diseases in coordination with WHO standards and regulations. The Alliance works closely with WHO headquarters, AFRO and theWHO in country offices, allowing for quick in roads and rapid implementation to most developing nations, including countries in East and West Africa. The Alliance already has an established footprint in Uganda and has support from the clinical services staff in the Ugandan Ministry of Health (MoH).

The Alliance includes Walimu, a US and Ugandan based NGO, which is currently supporting the implementation of training in Uganda. Walimu is a non-profit organization made up of physicians from Uganda and the US, working to improve medical are in Uganda. Their vision to empower Ugandan health officers to address local problems in innovative ways, which will lead to the transformation of medical training and patient care to meet international stnadards of excellence. As a collaborator with the Alliance, Walimu serves as a bridge to Alliance-related activities and their execution in clinical services.

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Metabiota's Technical and Cost Proposal

"DTRA/CBEP Implementation of an Epigenetics and Genomics of Infectious Diseases Workshop in the Middle East South Asia Region."

Technical Direction Number: TD-004
Contract Number: HDTRA1-14-C-0104
CAGE Cod (b)(4); (b)(6)
DUNS number

Small US Business
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Metabiota will engage Gryphon Scientific in direct support of this event to provide technical support in development and implementation of the workshop. Founded in 2005, Gryphon Scientific is a specialized small business consulting practice comprised of life scientists and health researchers who apply rigorous scientific analysis to problems of global health and homeland security. Their projects drive policy changes in security, preparedness, and science policy at the highest levels of US government. Abroad, they advise governments in the developing world on how to cope with daunting public health challenges. In the commercial sector, they contribute to business strategy for firms focusing on human health and wellness. Their aim is to improve the health and safety of populations world-wide.

In addition to working with Gryphon Scientific, Metabiota will coordinate directly with in-country partner The Royal Scientific Society (RSS). The RSS is the largest applied research institution, consultancy, and technical support service provider in Jordan and is a regional leader

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in the fields of science & technology. RSS provides expert testing services via 25 specialised locally & internationally accredited laboratories and prides itself on offering both the public and private sectors a unique scientific resource and a wide range of project expertise. Supported by

more than 500 science specialists, researchers, technical support staff, highly skilled management, and faculty, the RSS has truly become recognized as a local, regional and international research and development hub. Born out of the great heart and spirit of His Majesty the Late King Hussein and HRH Prince Hassan in 1970, the RSS has, since day one, aimed high to be the local and regional reference point of knowledge for science and technology using modern engineering research as a base to power economic development and social progress. With the vast expertise accumulated by the Society over the years, it has established itself as a pioneer within the broader international scientific community. RSS laboratories enjoy close personal co-operative ties with local, regional, and international scientific organizations. At RSS being customer–centric simply means having an unwavering commitment to the people of Jordan. The RSS continuously strives to improve its standing as a point of reference for scientific knowledge and technical awareness, where quality standards and public health become equal and totally uncompromised.

Project Overview

Introduction

Through AEP Technical Direction 004, DTRA CBEP USCENTCOM Regional leadership tasked the Metabiota team with administering a workshop on Epigenetics and Genomics of Infectious Diseases to enhance cooperation and collaboration within the Middle East South Asia (MESA) region. The desired event is multi-faceted and will include plenary talks, topic-focused sessions, poster sessions, and training sessions. The plenary talks will highlight recent advances in epigenetics, genomics, and the technologies and skills needed to study epigenetics. The topic focused sessions will provide opportunities for participants to learn about specific areas of research, such as epigenetics regulation of host immune system genes by bacterial toxins. The poster sessions will allow scientists to identify prospective partners for research cooperation. Finally, the training sessions will describe processes of initiating and maintaining international scientific collaboration, grant writing, and risk analysis.

Background

For more than two decades, researchers in the U.S. and other countries have studied the causes of pathogen infection, the human immunological response to pathogens, and ways in which pathogens control their hosts to maximize infection and transmission. Although early studies were carried out using standard microbiological techniques, the burgeoning fields of genomics and epigenetics have contributed to more thorough, investigative studies on host response to infection by different types of pathogens, including those in the especially dangerous pathogen category.

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Genomics refers to the study of structure, function, and mapping of all genetic information. With the sequencing of the human genome (along with the sequencing of genomes of several organisms), scientists have been studying the purpose and function of elements in noncoding and coding sections of the genome within a healthy system and a diseased or infected system. Numerous studies have been published describing pathogen co-option of the host cellular machinery and regulation of the host genome and proteome to facilitate replication and pathogenesis of infectious agents. These studies were significantly enhanced as scientific tools and software were developed to analyze large genomic (and proteomic) changes caused by pathogen infection.

Over the past few years, a growing body of literature has described regulation of histones and chromatin structure as a primary way in which pathogens control host transcription of critical immune response genes.[1] This type of regulation to alter transcription of specific DNA messages is part of a larger set of regulatory mechanisms that change when and how DNA is made without changing the nucleotide sequence. Together, these mechanisms comprise the field of epigenetics.

Epigenetics refers to the modification of DNA that does not involve changes to the DNA sequence, but could be passed on to future generations. Examples of epigenetic (or, outside the DNA) changes include methylation of DNA or RNA, regulation of histones, microRNAs, and small RNAs. Although not sequence based, these changes affect if a gene is made or how the resultant protein functions. Various microbes use epigenetic regulation to change cellular functions of the host. For example, certain bacterial toxins from *Listeria monocytogenes*, *Clostridium perfringens*, and *Streptococcus pneumonia* induce dephosphorylation of histone H3 and deacetylation of histone H4 resulting in reduced transcription of a key set of host immunity genes.[2] Pathogens can also cause aberrant methylation of histones changing the pattern of DNA expression of genes for "cell cycle progression, senescence, survival, inflammation, and immunity".[3]

While genomic studies often require newer sequencing technologies, epigenetic studies draw on fundamental genetic techniques, such as DNA methylation assays, chromatin immunoprecipitation assays, and mass spectrometry. Specialized equipment, technologies, and analytic tools are not necessarily needed to carry out these experimental procedures. However, if high-throughput and rapid tests are needed to examine epigenetic changes, technologies, equipment, and software might be needed to conduct the procedures and analyze the datasets.

Several MESA countries possess the necessary infrastucture to conduct both genomic and epigenetic studies, and several scientists across the region are conducting such studies.

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[1] Gómez-Díaz E, Jordà M, Peinado MA, and Rivero A (2012) Epigenetics of Host-Pathogen Interactions: The Road Ahead and Behind. PloS Pathog. 8(11).

[2] Hamon MA, Batsché E, Régnault B, Tham TN, Seveau S, Muchardt C, Cossart P (2007) Histone modifications induced by a family of bacterial toxins. PNAS (b)(6)

[3] Paschos K and Allday MJ. (2010) Epigenetic reprogramming of host genes in viral and microbial pathogenesis. Ce (b)(6) (b)(6)

Although epigenetics and pathogen infection is a relatively new avenue of research, a brief literature review suggests that scientists form the U.S., Europe, and some MESA countries are engaging in research aimed at studying pathogen regulation of the host immune response via epigenetic changes.[4] For example, with assistance from AAAS, Los Alamos National Laboratory, and U.S. government, the Jordan University of Science and Technology is becoming a genomic center for the region.

The proposed project will build on the MESA region's capacity to conduct genetic and epigenetic studies, research on epigenetics and infectious disease studies, and U.S. interest in such studies.

Understanding

The Metabiota team understands that the US Department of Defense (DoD) initiated CBEP through DTRA in order to: secure and consolidate select agents; enhance Biosafety and Biosecurity (BS&S) standards; and strengthen the USCENTCOM region's ability to detect, diagnose, survey, and report emerging and re-emerging diseases of international security concern and that CBEP accomplishes these objectives in accordance with the World Health Organization (WHO) International Health Regulations (IHR) and World Health Organization for Animal Health Guidelines (OIE). The team further recognizes that to achieve its mission, CBEP works collaboratively with partner nations, U.S. Government agencies, and the international community to enhance disease surveillance capabilities; develop human resource expertise in public and animal health, promote safe and secure laboratory and field work environments; and consolidate pathogens of security concern into a minimal number of safe and secure facilities in a sustainable manner. Through the Academic Engagement Partnership (AEP) Program, Metabiota aims to support the CBEP mission of reducing the potential impact of biological threats through enhanced biological safety and security, awareness of biological risks, and knowledge related to biological pathogens.

In support of this approach, the Metabiota team intends to administer a high-value workshop that will support strategic CBEP objectives by increasing regional collaboration on topics critical to biological threat reduction, and enhancing the regional capacity to perform biorisk management and mitigate the threat of infectious disease events. The team's on-the-ground experience and decades of expertise make us well positioned to support the implementation of this workshop and all of the associated activities, as well as scientific engagement in the USCENTCOM's area of responsibility.

Purpose

The purpose of this project is to encourage research in the fields of epigenetics and genomics in MESA countries and identify ways in which the MESA region can apply current epigenetic and genomics research addressing national and regional infectious disease threats, including for infectious disease surveillance and pathogen infection of endemic agents.

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[4] For example, a researcher from the Kingdom of Saudi Arabia published a review article on epigenetics and bacterial pathogenesis. See, Akeel RA. Role of epigenetic reprogramming of host genes in bacterial pathogenesis. (2013) Saudi J Bio Sci 20(4): 305-309.

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To achieve this purpose, CBEP has identified the need for a two-day workshop, which will provide a forum in which scientists from the U.S. and MESA countries will share information about current research in genetics and epigenetics of infectious diseases; identify possible scientific partners; participate in training sessions on international collaboration, grant writing, and risk management; and identify approaches for applying epigenetics and genomics to regional biosurveillance and characterization efforts. This will include plenary talks, topic-focused sessions, poster sessions, and training sessions. The plenary talks will highlight recent advances in epigenetics, genomics, and the technologies and skills needed to study epigenetics. The topic-focused sessions will provide opportunities for participants to learn about specific areas of research, such as epigenetics regulation of host immune system genes by bacterial toxins. The poster sessions will allow scientists to identify prospective partners for research cooperation. Finally, the training sessions will describe processes of initiating and maintaining international scientific collaboration, grant writing, and risk analysis.

Using a workshop approach, this engagement will promote global health security and threat reduction by supporting fundamental research to decrease the threat of WMD, and enhance regional capability building for pathogen research and surveillance. The workshop will provide opportunities for research cooperation between U.S. and MESA scientists on genetics, epigenetics, and infection, contributing to a greater understanding of pathogen infection in humans and infectious disease surveillance. This will serve to enhance the host-nation's capacity in disease surveillance and response, while adhering to international codes of security and safety to ultimately provide a mechanism for sustained engagement.

To accomplish this purpose, DTRA CBEP, through the Academic Engagement Partnership Program (AEP) has engaged the Metabiota team and its cadre of Research Collaborators (RCs) and Subject Matter Experts (SMEs) to administer the Epigenetics and Genomics workshop event in Amman, Jordan in collaboration with Gryphon Scientic and RSS.

Objectives

Through the implementation of the workshop on Epigenetics and genomics of infections disease, facilitated by Metabiota Inc., DTRA CBEP will be able to:

- Highlight recent advances in epigenetics, genetics, and the technologies and build skills needed to study epigenetics
- Provide opportunities for participants to learn about specific areas of research, such as epigenetics regulation of host immune system genes by bacterial toxins
- Allow scientists to identify prospective partners for research cooperation
- Build sustainable capacity through fostering international scientific collaboration and building grant writing, and risk analysis skills
- Support the development of disease reporting, surveillance and response systems regionally, thereby reducing the global threat
- Train regional scientists on risk management and international collaboration

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Threat Reduction Outcomes

The workshop will provide a measurable and achievable result in building scientific capacity in the MESA region while promoting a global network of research collaborations, and developing a sustainable infrastructure for advancing scientific research, including the early detection of emergent threats.

Workshops, poster sessions, plenary talks, and training engagements are critical to capacity building efforts in host countries and supporting the early detection and response to emerging threats, thus safeguarding the world from infectious disease threats. Without completion of the workshop engagement, the region is subject to the following identified risks:

- Reduced regional biosurveillance capability and characterization of novel infectious disease outbreaks
- Increased security threats due to improper handling, storage, and transport of pathogens of security concern
- Decreased communication between external scientists and MESA scientists
- Reduced risk management capacity

The completion of the training will mitigate the identified risk factors by:

- Improving and enhancing disease detection, reporting and response systems across the region
- Implementing and improving biorisk management best practices and principles based on internationally acceptable guidelines and standards (enhancing the capacity to account for, safeguard, and secure pathogens of concern)
- Increasing biosafety measures in regional biosurveillance activities
- Increasing scientific capabilities through research collaboration and fostering an environment of scientific partnership

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Risk Management

Factor		Likelihood	Severity	Risk Rating	Mitigation	Residual Risk
				Cost		
T&M Labor cost	It is not currently clear when the event will occur, which incurs cost	5	3	(b)(4); (b)(6)	Metabiota will collaborate with key partners to confirm event dates as soon as possible; monitor costs and work diligently to seek out the lowest costs possible; mitigate extended labor hours during events.	Med
Material Procurement	It is unclear what material may be required for implementation and execution of the workshop	4	4		Collaborate with key partners to identify which materials will be required; engage local collaborators to provide in-country support with rapid turnaround and solid track record in supporting USG operations.	Med
ODCs	Phone, internet costs, etc…	4	4		Engage local collaborators to provide in-country support on ODC costs and seek out the lowest costs possible.	Med
Travel	There are many participants from diverse locations, etc. Potential for additional visits being required	4	4		Review applications for workshop presenters and participants to select applicants based on scientific relevance and merit. Seek out the lowest costs possible for procurement and travel.	Med
				Schedule		
Scoping Visit	Travel for US nationals requires embassy clearance, including SERE, ISOPREP, ATFP, etc.	5	5	(b)(4); (b)(6)	Submit CBEP required deliverables for the training engagement, country clearance and travel authorization immediately upon receipt of proposal approval to ensure successful implementation.	**Med-High**
Workshop Agenda	Agenda is not yet developed	3	3	Med	Will collaborate with key partners and scientific advisory board to develop workshop agenda	(b)(4); (b)(6)
Training course syllabi	Training course syllabus is in preliminary stage	4	4	(b)(4); (b)(6)	Will collaborate with key partners and scientific advisory board to develop workshop syllabus	
Event execution	Schedule is not yet developed	4	5		Will develop schedule based on previous events to ensure that schedule does not have to be built from scratch	
				Performance		
Training presentation submission	Training presentation is not yet developed	3	3	Med	Will collaborate with key partners to develop training presentation	
Poster & abstract submission	Posters and abstracts have not yet been submitted	3	3	Med	Will review applications for posters and abstracts to select applicants based on scientific relevance and merit.	
Plenary talk submission	Plenary talks have not yet been submitted	3	3	Med	Review applications for workshop presenters and participants to select applicants based on scientific relevance and merit.	
Topic focused discussion	Topics for discussion have not yet been developed	3	3	Med	Will collaborate with key partners to work to develop focus topics for discussion	
Event execution	As the event is not yet scheduled, scheduling or coordination challenges could prevent the event from happening	3	3	Med	Will work with key partners and in-country collaborators to complete scheduling and coordination requirements and anticipate and mitigate any expected challenges	
Post event report	Report will require continued collaboration post event	3	3	Med	Metabiota will complete a post event report with input from key partners	

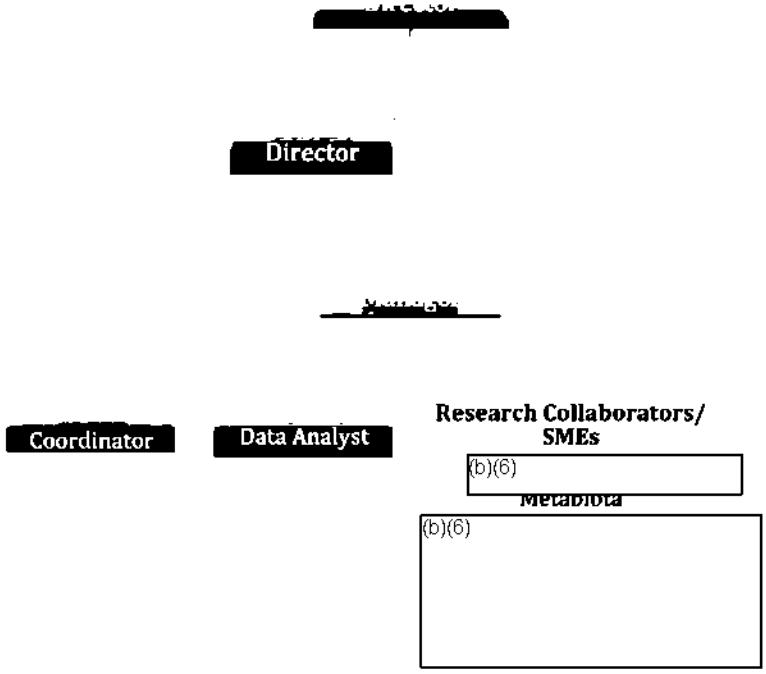
Management Approach

Introduction

Metabiota will employ its existing organizational leadership to interface with the Regional Science Manager, and Regional Program Manager, as needed to direct the operational and administrative support required to ensure implementation of the Epigenetics and Genomics Workshop. Our Program Manager, (b)(6) will oversee workshop adminstration, with the support of a research and data analyst, travel coordinator, research collaborators and subject matter experts to ensure that all aspects of cost, schedule and performance are monitored and reported to the AEP Contracting Officer Representative (COR) and AEP Program Leadership.

Project Team Structure

Metabiota's project team dedicated to completing this task will include the Metabiota AEP program leadership, the Program Manager, Research and Data Analyst, Travel Coordinator and a team of Research Collaborators and Subject Matter Experts that will be tasked with specific assignments to support the development and implementation of the workshop based on their administrative and scientific expertise. This team of experts will ensure the overall project management and tasks associated with the workshop are met at every level using best practices, and that only the highest level of scientific rigor and expertise is applied to this effort.



Initiation

Following guidance from CBEP USCENTCOM leadership, and working collaboratively with SMEs from Gryphon Scientific, and local collaborators from RSS, Metabiota will 1) identify and secure workshop facilities, 2) establish a scientific advisory board, 3) invite speakers and presenters, 4) develop the workshop agenda, 5) develop the submission, review and selection process for abstracts 6) initiate travel to conduct a scoping visit, and 7) initiate travel for SMEs to attend the workshop. The identified actions above will ensure that the project initiation and kickoff is geared to a successful implementation date of October 2015, and is critical to understanding the technical needs, coordination and facilitation of this event. Prior to initiating any action, Metabiota and CBEP will secure a clear understanding of the objectives and mission of this undertaking, and make sure all stakeholders agree to it. Following authorization to proceed by DTRA, Metabiota will move into the planning and execution of the workshop.

Planning and design

Completion of this task requires a two day workshop focused on achieving the following scientific goals: 1) share information about current genetic and epigenetic research examining pathogen infection; 2) catalyze scientific collaboration between U.S. and MESA scientists on genetic or epigenetic studies of mutual interest; and 3) promote regional capability-building for pathogen research and surveillance through training. To accomplish the research goals of this event and due to the size and scope of this endeavor, Metabiota will immediately focus on planning, designing and implementing the workshop in early June, due to the coordination and development required for the engagement. To accomplish this, Metabiota will engage experts from Gryphon Scientific and RSS to plan and design the workshop, develop a scientific advisory board, and a process for review and submission of abstracts to include a selection process for attendees, and a website providing event information and submission requirements focused to attract a cadre of young and emerging regional scientists. To ensure strong regional collaboration and success of the workshop, Metabiota will conduct a scoping visit in August to meet with RSS and identify the appropriate workshop location, facilitiate scientific collaboration, and ensure in-country logistics are moving forward and are operationally on track.

Execution

The core project management team will maintain oversight and implementation of the workshop at all times and will ensure successful execution of the event, tracking objectives to ensure all components of the event stay on schedule to meet the deliverable requirements. The project will be managed according to the steps required to implement the event and will be course corrected, as needed to ensure target end-goals are reached. The following tools will be used to guarantee the project schedule will be maintained:

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Project Administration:

1. Weekly team meetings and conference calls will be held to internally review the project achievements, accomplishments, barriers or challenges, and address any changes or updates that are required. The meetings will be scheduled and maintained by the Project Team and will include the PM, Research and Data Analyst, SMEs and AEP leadership, as needed based on the requirements and stage of implementation.
2. Routine calls and communication via email will be held with CBEP regional leadership, in-country collaborators, external SMEs, CLS, and Metabiota to provide routine status updates and ensure workshop implementation.

Project Reporting:

1. Weekly status reports will be provided by the PM to senior MB leadership to maintain routine tracking and status updates on the project, and provide space for risk mitigation and internal course correction, as needed to ensure workshop goals are met.

Monitoring and Controlling

1. Routine risk assessment will be performed internally among the MB project management team to guarantee the project stays on track. This will be accomplished through the implementation of the project administration and reporting mechanisms.
2. Routine communications will be maintained with CBEP regional leadership to ensure the project remains on track and is implemented according to standard.
3. Routine oversight and coordination will be performed to ensure Gryphon Scientific is performing technical requirements to ensure successful execution of the workshop. Monitoring will include technical, administrative and fiscal oversight.

Completion

Maintaining a focused project schedule with routine meetings and communication with CBEP regional leadership allowing for continued coordination while maintaining targeted objectives, Metabiota will drive the project to completion with the implementation of the workshop in October. Following completion of the engagement, review, final validation, and a back-and-forth dialogue with CBEP regional leadership, Metabiota will provide required deliverables and an after action report to allow for lessons learned and continuation of solid execution and implementation of activities. Metabiota believes that the experience and management it will bring to this project, in collaboration regional SMEs and CBEP, will guarantee success.

Technical Approach

Introduction

To accomplish event implementation Metabiota will maintain open lines of communication and will used a phased approach of engagement maintaining project tracking and scheduled deliverables. This phased approach will be coordinated directly with Gryphon Scientific SMEs

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and RSS collaborators to ensure the event is implemented according to DTRA CBEP requirements, in the assigned timeframes, and supports solid scientific engagement within the region providing risk mitigation and facilitating global health security and scientific collaboration to further develop and enhance biosafety and surveillance efforts on an international plane.

Communications Protocols

Metabiota will maintain open communications with international collaborators necessary for implementing the training, to include regional partners facilitating the training engagement and logistics. In addition, Metabiota will maintain routine communication with CBEP to ensure they have full visibility on the training engagement, status and process of execution.

Phases of Technical Approach

Metabiota will use a phased technical approach to manage all tasks required for successful implementation of the workshop and to provide overall feedback and reporting on the proceedings outlining the accomplishment of workshop objectives. The following phases are required for this project:

Phase 1: Appoint a 10-person scientific advisory group whose membership includes scientific leaders from the U.S. and MESA countries.

Objective and Process: Metabiota will work with Gryphon and RSS to identify and develop a scientific advisory board to govern the workshop and assist in technical development of workshop requirements, selection of participants and review of submitted abstracts.

Deliverable: A governing scientific body ensuring scientific rigor and technical expertise, facilitating critical scientific collaboration and event success.

Phase 2: Develop an application, review, and selection process for receiving scientific abstracts, reviewing the abstracts, and selecting attendees, including those who will be invited to give talks or present posters.

Objective and Process: Metabiota will work with Gryphon and RSS, and the scientific advisory board to develop a selection process for determining workshop attendees and ensure that they are selected based on expertise, and subject matter relevance to the workshop.

Deliverable: Framework facilitating attendee selection that will drive scientific integrity, and collaboration based on regional relevance and key expertise.

Phase 3: In collaboration with the scientific advisory board, develop a workshop agenda.

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Objective and Process: Develop a workshop agenda in collaboration with all partners to ensure successful implementation of the event while providing a regionally relevant scientific forum for scientific collaboration, training, and presentation.

Deliverable: Two-day workshop agenda to include plenary sessions, poster sessions, training and grants writing workshops.

Phase 4: Create a workshop website and carry out workshop logistics.

Objective and Process: A website will be built to ensure all information is available and marketable to the scientific community supporting participant selection and providing clear information for attendance. The website will be developed by Gryphon with oversight provided by Metabiota and regional information and requirements information provided by RSS.

Deliverable: Website to support the two-day workshop, providing workshop information, to include, but not limited to, the venue, speakers, schedule, application and selection process, travel requirements, and training events.

Phase 5: Compile the abstracts into the workshop program.

Objective and Process: Gryphon Scientific SMEs will compile the workshop abstracts following acceptance by the scientific advisory board and publish them in a workshop program made availalable to all attendees. The abstracts will be used as a tool for collaboration and scientific engagement.

Deliverable: Workshop Program

Phase 6: Hold the workshop and associated training sessions.

Objective and Process: Implementation of the workshop is the critical phase in accomplishing the project and meeting the overall goal of this endeavor. Utilizing the management and technical approach outlined, Metabiota will work collaboratively with Gryphon Scientific SMEs and RSS to complete Phases 1-5 building up to final implementation. Metabiota will utilize Gryphon's expertise in planning this event and providing the technical requirements for facilitation in coordination with RSS and their superior regional leadership and knowledge to successfully complete a two-day workshop. RSS experts will provide all in-country requirements and facilitation with technical input for speakers and attendees coordinated directly with Gryphon and oversee by Metabiota project personnel. The scientific advisory board will govern the technical process for selection ensuring scientific integrity and integration at this event. In addition, Metabiota will coordinate directly with CLS to support travel of participants and speakers attending this event to include translation services, poster production, workshop facilitation, and travel requirements.

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Deliverable: A two-day Epigenetics and Genomics of Infectious Diseases Workshop facilitating research addressing national and regional infectious disease threats, including for infectious disease surveillance and pathogen infection of endemic agents attended by an estimated 65 regional participants, and hosted by an estimated 35 speakers providing scientific engagement.

Phase 7: Prepare a final report documenting the workshop.

Objectives and Process: Metabiota and Gryphon Scientific will prepare an after action report sharing the proceedings of the workshop and identifying the accomplishment of goals leading to sustained engagement and scientific collaboration.

Deliverable: Completed workshop report provided to CBEP outlining the conference proceedings and key information showing support of CBEP objectives and the accomplishment of workshop goals directly supporting these goals.

To accomplish the above phases, Metabiota will work with Gryphon Scientific and RSS to identify and appoint a 10-person scientific advisory board to govern this event. With guidance from the selected scientific advisory group, Metabiota and Gryphon Scientific will determine the exact timing of the event in October, and will determine the facilities, and initial logistics necessary to facilitate the event. Attendees will be scientists who are working in epigenetics and genomics of infectious diseases, human and animal health experts, and decision makers from the Middle East and South Asian region.

The scientific workshop will last two days and have plenary sessions, science sessions, and training sessions. A brief depiction of the workshop program and session topics is included below, however it will be further refined in development with the board and SMEs.



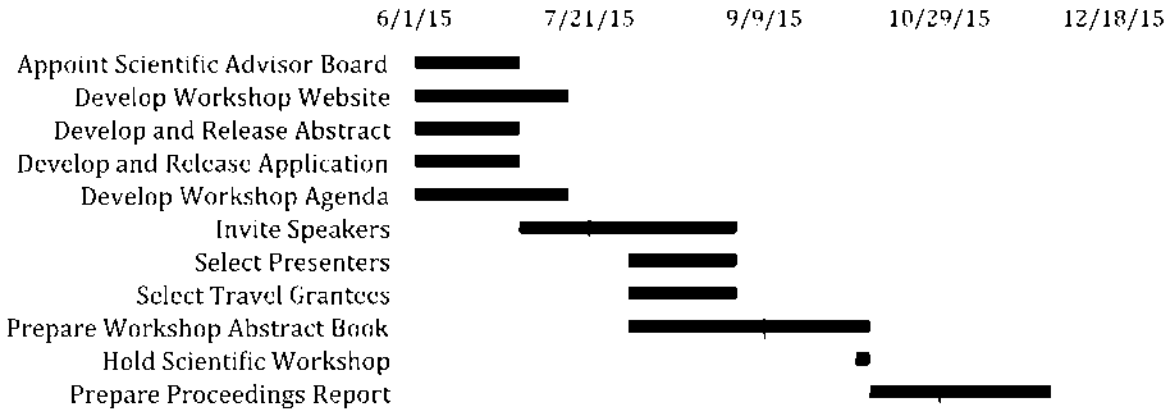
Metabiota, Gryphon Scientific, RSS, and the scientific advisory board will select speakers for each session, review applications for workshop presentation (either to give scientific talks or present posters), and review applications for attendance by participants across the region.

Scientists who wish to present their research will submit an abstract of their presentation, a brief description of their interest/objectives in attending the workshop, and any supporting information (such as approval by a supervisor). This will be reviewed and discussed with the committee and applications will be selected based on scientific relevance and merit.

Young scientists who require travel support – regardless of whether they are presenting – will be asked to provide a brief description of their objectives in attending the workshop, their research or scientific activities, and any supporting information. Applicants will be selected based on the stated objectives and scientific relevance.

Gryphon Scientific SMEs will develop the workshop website and prepare the application form for presenters, application form for workshop attendance, workshop program, and workshop proceedings report, with oversight provided by Metabiota and input received from RSS. The workshop will be marketed through the workshop website, as well as using Metabiota's existing network of scientists in the Middle East and South Asia, and through U.S. and regional scientific organizations.

Timeline



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Metabiota Key Personnel

(b)(6) Deputy Director

Mr. (b)(6) is the Deputy Director of the Academic Engagement Partnership (AEP) Program and an Internationally Certified Emergency Manager (CEM®) with 14 years of experience leading, managing, and consulting on the full spectrum of Counter Weapons of Mass Destruction (CWMD) operations and Chemical Biological Defense programs, as well as research and development in support of joint task forces, special operations forces, other government agencies, and the Department of Defense on the strategic, operations, and tactical leve(b)(6) a driven leader with a proven track record of building value with partners through the identification of capability gaps, and the development and validation of effective solutions

to the unique challenges faced when dealing with Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) threats. In addition, he is well versed at risk analysis and management, strategic planning, policy analysis and political engagement.

(b)(6) rogram Manager

Ms. (b)(6) is the Southeast Asia and Middle East Regional Program Manager of the Academic Engagement Partnership (AEP) Program with over eight years experience as a global health project/program manager, with a focus in SE Asia regional activities, having lived and worked in Cambodia for four years supporting DoD efforts in the region. Since joining Metabiota in 2010, she has managed DTRA CBEP engagements in West and Central Africa, to include Ebola response efforts, as well as spending three years as the Program Manager on projects funded by USAID, AFHSC GEIS. BEP, NIH, USAMRIID, and HJF spanning all regions of Metabiota engagement.

(b)(6) Research and Data Analyst

(b)(6) oined Metabiota in May after completing her MPA in International Management. She has five years experience working in international development, ranging in scope from a macro-level international development bank to micro-level grass roots development work. She worked for two and a half years in rural Mozambique doing public health project management with the US Peace Corps, local community health clinics, and international donors.

(b)(6) - Subject Matter Expert

ecently joined Metabiota from CRDF Global where she managed a large portfolio of US Biosecurity Engagement Program (BEP) funded activities in the Middle East North Africa, and Southeast Asia, as well as supporting their nonproliferation programs in

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support of biological threat reduction. She holds a Masters in Science from Georgetown University with a focus on Biohazardous Threat Agents and Emerging Infectious Diseases and a Bachelor of Science in Microbiology, and is currently studying Arabic.

Dr. (b)(6) Research Collaborator

(b)(6) joined Gryphon Scientific in 2015. Her focus areas are biotechnology, security, health security, and science policy. (b)(6) work addresses biological and chemical defense issues through active involvement of the scientific and security communities, international science engagement, and evaluation of multidisciplinary science and technologies. She has experience in: evaluating policy initiatives and produced policy and program option papers; developing educational case studies through which scientists can learn about how to analyze risk in their own research; designing and administering table top exercises to promote greater knowledge of how risks and threats are addressed in the scientific and law enforcement communities and to identify potential gaps in the system; and conducting technology evaluations in which she developed risk and benefit scenarios and risk assessment frameworks. She has developed innovative programs to promote trust and communication between the FBI and the academic science community in the United States, and to encourage cooperation between U.S. and Middle Eastern and North African scientists. In 2012, (b)(6) worked with the Presidential Commission for the Study of Bioethical Issues for seven months. There, she was the staff lead on the Commission's evaluation of the ethical issues associated with pediatric medical countermeasures research. Immediately prior to joining Gryphon Scientific, (b)(6) spent nine years at the American Association for the Advancement of Science Center for Science, Technology and Security Policy. (b)(6) conducted her post-doctoral research at the Emory Vaccine Center where she conducted pre-clinical research and development of HIV and smallpox vaccines. (b)(6) received her Ph.D. in genetics and molecular biology at Emory University and B.S. in molecular genetics at The Ohio State University.

Cost Management

The Metabiota team and all partners will maintain an acute focus on cost management to ensure that the workshop is delivered at a reasonable cost to the government. Our team will provide full oversight of Gryphon Scientific to ensure accurate and responsive financial reporting and will facilitate cost savings to the Government wherever possible. Metabiota will follow all procurement and travel regulations ensuring the best price is secured while maintaining product integrity.

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Budget Narrative

Period of Performance

The Period of Performance for this effort is June 1, 2015 to November 30, 2015.

Labor

Costs for direct labor to support this activity is required for the following personnel:

Metabiota Program Manager (b)(6) to oversee and execute the workshop to include management of deliverables, logistics, management of project personnel, tracking of project requirements, and implementation.

Metabiota Research and Data Analyst (b)(6) to assist in coordinating of the workshop, to include assisting in management of deliverables, logistics, tracking of project requirements, deliverables and review of conference materials.

Metabiota Subject Matter Expert (SME), (b)(6) to coordinate with Gryphon and RSS SMEs and Research Collaborator (RC) in development of workshop materials, oversight of participant selection process, and workshop coordination.

Metabiota Grants Manager, to develop grants management session for the workshop and coordinate with SMEs and RC in supporting the development of plenary sessions, and coordination of the technical engagement to facilitate scientific sessions and additional training requirements of the workshop.

Metabiota Research Collaborator, to facilitate scientific engagement and support the development of plenary and scientific sessions in coordination with Gryphon and RSS personnel ensuring scientific oversight and integrity of the workshop.

Gryphon Research Collaborator and Subject Matter Experts will coordinate with Metabiota and RSS to develop the 2-day workshop agenda, plenary talks, scientific and training sessions to facilitate this event. They will also assist in scientific board selection, participant selection, development of the conference website, completion of conference materials to include the abstract booklet and after action report.

Additional costs for direct labor supporting the Deputy Director and Travel Coordinator are not required, as they are already included in the FFP CLIN 1001 – Program Management Office.

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Materials

Materials and supplies are required to support the workshop proceedings, to include printing and publication of the abstract booklet and after action report. Shipping costs are also included to support the delivery of conference materials produced in the US to Jordan for the workshop event.

A workshop website will be developed and maintained to provide information on and facilitate requirements in support of the workshop. The website will provide a forum for conference information, to include the agenda, schedule, abstract and poster submission requirements, selection process, and other key information necessary to effectively communicate conference information to the scientific community.

Other Direct Costs

Per contract guidelines DBA insurance is required for all personnel engaged on the AEP project. DBA insurance will be secured for Gryphon personnel for the period of performance for this engagement. In addition, DBA insurance will be secured for Metabiota personnel traveling to Amman, Jordan in support of workshop coordination.

SOS Insurance is required for Metabiota personnel traveling to Amman, Jordan to support workshop coordination to ensure they are covered for emergency and evacuation services while in country.

Subcontracts

A Subcontract will be issued to Gryphon Scientific to support their labor requirments on this engagement, as well as materials they will produce in support of this effort. Costs are captured under the appropriate labor categories in CLIN 1002 and materials in CLIN 1003 of the budget.

Travel

Travel is requested for (b)(6) Deputy Director of the AEP program and (b)(6) Program Manager to travel to Amman, Jordan to conduct a scoping visit prior to conducting the workshop. The scoping visit is critical for meeting with RSS key personnel supporting this engagement to include members of the scientific board, and to ensure in-country logistical support services being provided by RSS in support of this event is monitored by Metabiota senior personnel and is well in place to facilitate this event.

Travel is requested to support Metabiota and Gryphon project personnel to Amman, Jordan to facilitate implementation of the workshop to include, hosting the event, overseeing engagement with the participants, and conducting of the training, plenary and scientific sessions. In addition,

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this time is required to oversee and support all logistical needs supporting the workshop in conjunction with RSS.

It is estimated that a total of 65 regional participants from throughout the Middle East will be selected to attend this event, as well as up to 35 speakers required for implementation of the plenary, scientific, and training sessions required for this event. With the volume of travel required on this enagement, and in accordance with the contract, Metabiota did not request travel funding in support of this, as it is planned that all this travel would be routed to CLS. Additional conference support requirements to facilitate participant attendance to include abstract and poster submission requirements, and translation services may be required by CLS to facilitate the overall engagement and implementation of the workshop.

Conclusion

Metabiota is committed to support our customers and partners in achieving their objectives. Our global reach, enduring relationships with key partners in public health, and core mission of providing actionable infectious disease intelligence to make a positive impact on global health security will ensure success for DTRA CBEP CENTCOM in the implementation of the DTRA/CBEP Implementation of an Epigenetics and Genomics of Infectious Diseases Workshop in the Middle East South Asia Region. Metabiota will ensure, through strong project management and risk mitigation that the training will be executed in an efficient and timely manner delivering a top quality course geared to support enhanced biosurveillance and biosafety efforts in the region.

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METABIOTA

June 04, 2015,

Dr. (b)(6) Contracting Officers Representative J3CTB
Defense Threat Reduction Agency (DTRA)
8725 John J Kingman Road, #6201
Fort Belvoir, VA 22060

Sent via email to (b)(6)
CC: (b)(6)

RE: HDTRA1-14-C-0104 Revised Technical Direction for the Implementation of Sample Collection and Diagnostics Training on Middle East Respiratory Syndrome in Camels and Bats in Kazakhstan Cooperative Threat Reduction (CTR) Academic Engagement Partners (AEP)
Metabiota Revised Proposal R1

Dear Dr. (b)(6)

Metabiota, Inc. (Metabiota) is pleased to present the attached proposal in response to the above referenced Revised Letter of Technical sent by DTRA on June 03, 2015.

Metabiota intends to engage Duke NUS as a Subcontractor for the training and TMC Global Professional Services to provide in-country logistics support and procurement services.

For the effort described, Metabiota estimates the Rough Order of Magnitude (ROM) to be **$391,056** for a Period of Performance of May 16, 2015 to September 30, 2015. The detail budget is included. This proposal remains valid until August 30, 2015.

Please feel free to cont (b)(6) with questions or concerns at (b)(6)

Sincerely,

(b)(6)
Contracts Manager

METABIOTA

June 02, 2015,

Dr. (b)(6) Contracting Officers Representative J3CTB
Defense Threat Reduction Agency (DTRA)
8725 John J Kingman Road, #6201
Fort Belvoir, VA 22060

Sent via email to (b)(6)
CC: (b)(6)

RE: HDTRA1-14-C-0104 Technical Direction for the Implementation of an Epigenetics and Genomics of Infectious Diseases Workshop in the Middle East South Asia Region.

Dear Dr (b)(6)

Metabiota, Inc. (Metabiota) is pleased to present the attached proposal in response to the above referenced Letter of Technical sent by DTRA on May 26, 2015.

Metabiota intends to engage Gryphon Scientific as a Subcontractor.

For the effort described, Metabiota estimates the Rough Order of Magnitude (ROM) to be **$565,220** for a Period of Performance of June 01, 2015 to November 30, 2015. The detail budget is included. This proposal remains valid until August 30, 2015.

Please feel free to contact (b)(6) with questions or concerns at (b)(6)

Sincerely,

(b)(6)
Contracts Manager

METABIOTA

May 29, 2015,

Dr. (b)(6) Contracting Officers Representative J3CTB
Defense Threat Reduction Agency (DTRA)
8725 John J Kingman Road, #6201
Fort Belvoir, VA 22060

Sent via email to (b)(6)
CC: (b)(6)

RE: Metabiota, Inc. Rough Order of Magnitude Proposal
Implementation of Sample Collection and Diagnostics Training on Middle East Respiratory Syndrome in Camels and Bats in Kazakhstan
Cooperative Threat Reduction (CTR) Academic Engagement Partners (AEP)
DTRA Contract No. HDTRA1-09-14-FRCWMD-BAA

Dear Dr. (b)(6)

Metabiota, Inc. (Metabiota) is pleased to present the attached proposal in response to the above referenced Letter of Technical sent by DTRA on May 26, 2015.

Metabiota intends to engage Duke NUS as a Subcontractor for the training and TMC Global Professional Services to provide in-country logistics support and procurement services.

For the effort described, Metabiota estimates the Rough Order of Magnitude (ROM) to be **$505,216** for a Period of Performance of May 16, 2015 to September 30, 2015. The detail budget is included. This proposal remains valid until August 30, 2015.

Please feel free to contac (b)(6) with questions or concerns at (b)(6)

Sincerely,

(b)(6)

Contracts Manager

Travel Authorization Form

TRIP #	
Project/Phase #	AEP, TD-017
Purpose:	Travel to Tbilisi, Georgia
SOW / Task	Project Summary: Metabiota will support the Richard G. Lugar Center for Public Health Research of the Ministry of Agriculture in Georgia by providing subject matter expertise for grant proposal development to the National Center for Disease Control (NCDC) and Laboratory of Ministry of Agriculture (LMA). The project team, including subject matter experts provided by Attimo Group LLC, will collaborate to conduct this activity through from October 8, 2015-May 15, 2016. This activity will provide expertise in the following knowledge areas required for proposal submission to DTRA CBEP Broad Agency Announcement (BAA) or other competitive research solicitations: development of white papers; proposal preparation, editing, and submission; the development of accurate direct and indirect cost projections; the identification and articulation of scientific hypotheses; research data framing, and reviewing and responding to proposal evaluations and recommendations Attimo will provide remote and on-site grantsmanship mentoring, editorial guidance, implementation of mentoring work plans, and identification of future mentorship stakeholder needs. This collaboration will build a long-term partnership between key research and technical centers in Georgia and will nourish hypothesis-driven and translational research programs that result in sustainable funding and academic publications. In order to conduct this activity Attimo Group LLC will act in the role of Project Team member and subject matter experts (SMEs). Schedule/Timeline: This activity will take place Oct. 8, 2015-May 15, 2016. Please note that though two persons are indicated here, only one person will travel on AEP dollars. The final decision of which SME will travel has not yet been determined as we believe we may be able to leverage other travel by Dr. Gallagher to have both SMEs there.
Desired Outcome	The majority the trip will be spent working with and mentoring project participants on developing proposals, creating complete budgets, and performing peer-reviews. It expected that the outcome of the meeting will be completed and reviewed white papers, or final drafts, that will be available for submission to the appropriate funding agencies.
Dates, Location	Tbilisi, Georgia - 31 January - 06 February 2016
Travelers:	NAME POSITION (b)(6) Senior Research Manager
Lodging to be Arranged by:	AEP
Contract:	AEP

FLIGHT AND TRAIN TICKETS

From:	To:	Airfare Cost	Fee				Total
Roanoke	Tbilisi	$ 2,247.00					$ 2,247.00
							$ -
Sub-Total:							**$ 2,247.00**

Lodging & Meals and Incidental Travel Expenses (M&IE)

	Lodging	Costs	M&IE	M & E			
Location	No of Nights	Per Day	Days	Rate	Subtotal		Total
Tbilisi, Georgia	6	$ 236.00	7	$ 105.00	$ 682.50		$ 2,098.50
							$ -
					$ -		$ -
					$ -		$ -
Sub-Total:							**$ 2,098.50**

Other Travel Expenses - ground transportation, fees, insurance etc.

Expense Type	Qty	Rate					Total
Parking	7	$ 16.00					$ 112.00
Misc. taxis in Georgia	1	$ 100.00					$ 100.00
							$ -
							$ -
Sub-Total:							**$ 212.00**

TOTAL ESTIMATED TRIP COSTS

TOTAL ESTIMATED TRIP COST							**$ 4,557.50**

Travel Authorization Form

TRIP #	08 19 2015_AEP_DC_PACOM Deliverable
Project/Phase #	AEP CLIN008
Purpose:	Travel to Washington DC to support the PACOM regional baseline analysis - Sept 2nd deliverable preparation
SOW / Task	Work with PACOM team in DC to support completion of the PACOM regional baseline analysis deliverable for presentation on 2 September to CBEP regional leadership
Desired Outcome	Work with PACOM team in DC to support QAQC, coordination, and completion of the regional baseline analysis final review pr or to submission to CBEP regional leadership on 2 September 2015.
Dates, Location	Washington DC, 23 August - 02 September 2015
Traveler:	NAME, POSITION (b)(6) Southeast Asia PM
Lodging to be Arranged by:	Metabiota
Contract:	AEP

FLIGHT AND TRAIN TICKETS

From:	To:	Airfare Cost	Booking Fee		Subtotal		Total
(b)(6) LAX to IAD return	Washington DC	$ 950.70	$ -		$ 950.70		$ 950.70
Sub-Total:							**$ 950.70**

Lodging & Meals and Incidental Travel Expenses (M&IE)

Location	Lodging No of Nights	Estimated Lodging Costs Per Day	M&IE Days	M&IE Rate	Subtotal		Total
(b)(6) Washington DC (9 nights; 2 travel days; 9 full days)	9	$ 162.00	2	$ 71.00	$ 1,706.50		1706.5
Sub-Total:							**$ 1,706.50**

Other Travel Expenses - ground transportation, fees, insurance etc.

Expense Type	Qty	Rate			Subtotal		Total
(b)(6) ground transportation (to/from Airport)	4	$ 65.00			$ 260.00		$ 260.00
							$ -
Sub-Total:							**$ 260.00**

TOTAL ESTIMATED TRIP COSTS

							TOTAL
TOTAL ESTIMATED TRIP COST							$ 2,917.20

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$709,821
1003	MATERIALS	$29,089
1004	ODCs	$2,593
1005	TRAVEL	$0
TOTAL		**$741,503.09**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	601	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist		-	$0.00
CLIN 1002	Scientific Mentor			$0.00
CLIN 1002	SME1		1,216	(b)(4); (b)(6)
CLIN 1002	SME2		2,368	
CLIN 1002	SME3			$0.00
CLIN 1002	Resaerch Collaborator			$0.00
CLIN 1002	Trainer 1			$0.00
CLIN 1002	Trainer 2			$0.00
CLIN 1002	Trainer 3			$0.00
CLIN 1002	Grants Manager			$0.00
CLIN 1002	Research and Data Analyst		160	(b)(4); (b)(6)
CLIN 1002	CENTCOM FLN III		1,528	
			TOTAL	

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET
1. Proposal Development						
Program Manager TBD		PM	PM	16.0	$	(b)(4); (b)(6)
Project Coordinator TBD		SME1	SME1	12.0	$	
Subject Matter Experts (multiple)		SME2	SME2	16.0	$	
2. General Project Coordination						
In-Country Implementers (TBD, multiple)		FLN	FLN	712.0	$	
Program Manager TBD		PM	PM	429.0	$	
Project Coordinator TBD		SME1	SME1	852.0	$	
3. Training Material Dev/Adapt						
Epidemiology and BS&S research analysts (TBD)		RDA	RDA	100.0	$	
Epidemiology and BS&S Subject Matter Experts (TBD, multiple)		SME2	SME2	808.0	$	
4. Training Material Translation						
Program Manager TBD		PM	PM	8.0	$	
Project Coordinator TBD		SME1	SME1	16.0	$	
5. LMS implementation						
In-Country Implementers (TBD, multiple)		FLN	FLN	160.0	$	
Project Coordinator TBD		SME1	SME1	40.0	$	
6. Remote delivery of epi course						
Epidemiology research analysts (TBD)		RDA	RDA	20.0	$	
Epidemiology Subject Matter Experts (TBD, multiple)		SME2	SME2	300.0	$	
7. Remote delivery of BS&S course						
BS&S research analysts (TBD)		RDA	RDA	20.0	$	
BS&S/BRM Subject Matter Experts (TBD, multiple)		SME2	SME2	300.0	$	
8. Hands on course						
In-Country Implementers (TBD, multiple)		FLN	FLN	100.0	$	
Epidemiology and BS&S Subject Matter Experts (TBD, multiple)		SME2	SME2	200.0	$	
9. NBERP familiarization						
In-Country Implementers (TBD, multiple)		FLN	FLN	100.0	$	
Epidemiology and BS&S Subject Matter Experts (TBD, multiple)		SME2	SME2	200.0	$	
10. Gap Analysis						
In-Country Implementers (TBD, multiple)		FLN	FLN	200.0	$	
Epidemiology and BS&S Subject Matter Experts (TBD, multiple)		SME2	SME2	200.0	$	
11. Epi course second cohort						
Epidemiology research analysts (TBD)		RDA	RDA	20.0	$	
Epidemiology Subject Matter Experts (TBD, multiple)		SME2	SME2	200.0		
12. Epi course 2 coordination						
In-Country Implementers (TBD, multiple)		FLN	FLN	256.0		
Program Manager TBD		PM	PM	128.0		
Project Coordinator TBD		SME1	SME1	256.0		
13. Project closeout						
Program Manager TBD		PM	PM	20.0		
Project Coordinator TBD		SME1	SME1	40.0		
Epidemiology and BS&S Subject Matter Experts (TBD, multiple)		SME2	SME2	144.0		

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
0003	epicemiology textbooks	(b)(4); (b)(6)	30	$ (b)(4); (b)(6)
0003	risk managem		15	$
0003	USB internet devices		45	$
0003	Prepaid internet access cards (6GB data per 3 months)		60	$
0003	general office supplies		1	$
0003	PPE (Tyvek suits, gloves, goggles, disinfectants, N95 respirators, booties, etc.)		15	$
			Sub-Total	
			SMF Fully Loaded Amnt:	(b)(4);

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance	$ (b)(4); (b)(6)	1	(b)(4); (b)(6)
1004				
1004				
1004				
1004				
			Sub-Total	
			(b)(4); (b)(6)	
			Fully Loaded Amnt:	

Traveler:		
Departure Location:		
Destination:		
Purpose:		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 6 full days)	$	-
Ground Transport/US	$	-
Ground Transport/Entebbe-TBD-Entebbe	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

Traveler:		
Departure Location:		
Destination:		
Purpose		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 13 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 12 full days)	$	-
Ground Transport US	$	-
Ground Transport/Entebbe-TBD-Entebbe	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

Traveler:		
Departure Location:		
Destination:		
Purpose:		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 6 full days)	$	-
Ground Transport/US	$	-
Ground Transport/Entebbe-TBD-Entebbe	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

Traveler:		
Departure Location:		
Destination:		
Purpose		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 13 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 12 full days)	$	-
Ground Transport/Freetown	$	-
Ground Transport/Entebbe-TBD-Entebbe (included into TM MB)	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

Traveler:		
Departure Location:		
Destination:		
Purpose:		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 6 full days)	$	-
Ground Transport/Freetown	$	-
Ground Transport/Entebbe-TBD-Entebbe	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

TOTAL TRAVEL BUDGET:	**$0**

USG Foreign Per Diem Rates (http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1239)

Location	Maximum Lodging	M&IE	Total
Wakiso/Hoima	62	48	110

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$279,635
1003	MATERIALS	$12,632
1004	ODCs	$12,147
1005	TRAVEL	$45,828
TOTAL		**$350,242.27**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	415	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist		-	
CLIN 1002	Scientific Mentor		-	
CLIN 1002	SME1		16	
CLIN 1002	SME2		-	
CLIN 1002	SME3		303	
CLIN 1002	Resaerch Collaborator		-	
CLIN 1002	Trainer 1		527	
CLIN 1002	Trainer 2		-	
CLIN 1002	Trainer 3		81	
CLIN 1002	Grants Manager		-	$0.00
CLIN 1002	Research and Data Analyst		714	(b)(4); (b)(6)
CLIN 1002	AFRICOM FLN-1		180	
			TOTAL	

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET	Full Time Employee Support	IC Support by Activity
(b)(4); (b)(6)					(b)(4); (b)(6)			
	FT	Program Manager	Program Manager	90.5	$			
	FT	SME III	Subject Matter Expert	16.0	$			
	FT-PT	Trainer I	Training Administrator	6.0	$			
	FT-PT	Research and Data Analyst	Project Coordinator	84.0	$			
	FT	SME I	Project Support	16.0	$		Total:	Total:
	FT	Program Manager	Program Manager	2.5	$		6	0
	FT	Program Manager	Program Manager	351.0	$		otal:	Total:
	PT	Research and Data Analyst	Project Coordinator	390.0	$		2	0
	FT	Trainer III	Techn cal Manager	11.5	$			
	FT-PT	Trainer I	Training Administrator	2.0	$		Total:	Total:
	FT	SME III	Subject Matter Expert	63.0	$		3	0
	FT	Trainer III	Techn cal Manager	40.0	$			
	FT	Trainer I	Training Administrator	310.0	$			
	FT	Trainer I	Field Epidemiologist	215.0	$			
	FT	SME III	Subject Matter Expert	240.0	$			
	IC	Research and Data Analyst	In Country Trainer Mod 1	60.0	$			
TBD	IC	Research and Data Analyst	In Country Trainer Mod 1	60.0	$			
TBD	IC	Research and Data Analyst	In Country Trainer Mod 1	60.0	$			
TBD	IC	Research and Data Analyst	In Country Trainer Mod 1	60.0	$		Total:	Total:
(b)(6)	IC	AFRICOM FLN-1	In Country Trainer Mod 2	180.0	$		4	4
	FT	Program Manager	Program Manager	351.0	$			
	FT	Program Manager	Techn cal Manager	61.0	$			
	FT	Trainer III	Techn cal Manager	81.0	$			
	FT-PT	Trainer I	Training Administrator	312.0	$			
	FT-PT	Research and Data Analyst	Project Coordinator	474.0				
	FT	Trainer I	Field Epidemiologist	215.0	$			
	FT	SME III	Subject Matter Expert	303.0	$			
	IC	Research and Data Analyst	In Country Trainer	60.0	$			
TBD	IC	Research and Data Analyst	In Country Trainer	60.0	$			
TBD	IC	Research and Data Analyst	In Country Trainer	60.0	$			
TBD	IC	Research and Data Analyst	In Country Trainer	60.0	$			
(b)(4); (b)(6)	IC	AFRICOM FLN-1	In Country Trainer	180.0	$			
	FT	SME I	Project Support	16.0	$		Total:	Total:
	FT	Program Manager	Program Manager	2.5	$		9	5

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	Internet Data Packages	$1,500.00	4	$ 6,000.00
1003	Mobile D:	$1,500.00	4	$ 6,000.00
				$ -
				$ -
				$ -
				$ -
			Sub Total	
			Fully Loaded Amnt:	

(b)(4); (b)(6)

(b)(4); (b)(6)

CLIN No.	Item	Cost	Number of Req.	Total Billab e Amount $
1004	DBA nsurance	$ 9,301.97	1	9,302
1004				-
1004				-
1004				-
1004				
			Sub-Total	
			G&(b)(4); (b)(6)	
			Fully Loaded Amnt:	

(b)(4); (b)(6)

	Foreign
Traveler:	(b)(6)
Departure Location:	TBD
Destination:	Uganda
Purpose:	OHE 1-week training - Location TBD; travel dates TBD
Airfare	$ 2,000.00
Service Fee/Airfare	$ 43.00
Lodging/ 1 night @ Entebbe	$ -
Lodging / 7 nights @ TBD	$ 434.00
Meals / Incidentals (2 travel days; 6 full days)	$ 360.00
Ground Transport/US	$ 300.00
Ground Transport/Entebbe-TBD-Entebbe	$ 900.00
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ 250.00
Other (comm costs, Internet etc)	$
Visa	$ 244.00
# of Days	8
Total Per Trip	**$ 4,531.00**
No. of trips	1
No. of persons	2
SUBTOTAL:	**$ 9,062.00**

	Foreign
Traveler:	(b)(6)
Departure Location:	TBD
Destination:	Uganda
Purpose:	OHE 2-week training. Location TBD; Travel dates TBD
Airfare	$ 2,000.00
Service Fee/Airfare	$ 43.00
Lodging/ 1 night @ Entebbe	$ -
Lodging / 13 nights @ TBD	$ 806.00
Meals / Incidentals (2 travel days; 12 full days)	$ 648.00
Ground Transport/US	$ 300.00
Ground Transport/Entebbe-TBD-Entebbe	$ 900.00
Registration Fee	$ -
Insurances (DBA, SOS)	
Vaccinations/Malarone	$ 200.00
Other (comm costs, Internet etc)	
Visa	$ 244.00
# of Days	14
Total Per Trip	**$ 5,141.00**
No. of trips	1
No. of persons	2
SUBTOTAL:	**$ 10,282.00**

	Foreign
Traveler:	(b)(6)
Departure Location:	TBD
Destination:	Uganda
Purpose:	OHE 1-week training: Location TBD; travel day TBD
Airfare	$ 2,000.00
Service Fee/Airfare	$ 43.00
Lodging/ 1 night @ Entebbe	$ -
Lodging / 7 nights @ TBD	$ 434.00
Meals / Incidentals (2 travel days; 6 full days)	$ 360.00
Ground Transport/US	$ 300.00
Ground Transport/Entebbe-TBD-Entebbe	$ 900.00
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ 200.00
Other (comm costs, Internet etc)	$
Visa	$ 244.00
# of Days	8
Total Per Trip	**$ 4,481.00**
No. of trips	1
No. of persons	2
SUBTOTAL:	**$ 8,962.00**

	Foreign
Traveler:	(b)(6)
Departure Location:	Freetown, Sierra Leone
Destination:	Uganda
Purpose:	OHE 2-week training: Location TBD, trave days TBD
Airfare	$ 6,500.00
Service Fee/Airfare	$ 43.00
Lodging/ 1 night @ Entebbe	$ 144.00
Lodging / 13 nights @ TBD	$ 806.00
Meals / Incidentals (2 travel days; 12 full days)	$ 648.00
Ground Transport/Freetown	$ 350.00
Ground Transport/Entebbe-TBD-Entebbe (included into TM MB)	$ 350.00
Registration Fee	$ -
Insurances (DBA, SOS)	
Vaccinations/Malarone	$ 200.00
Other (comm costs, Internet etc)	$ -
Visa	$ 50.00
# of Days	14
Total Per Trip	**$ 9,091.00**
No. of trips	1
No. of persons	1
SUBTOTAL:	**$ 9,091.00**

	Foreign
Traveler:	(b)(6)
Departure Location:	Freetown, Sierra Leone
Destination:	Uganda
Purpose:	OHE 1-week training: Location TBD travel days TBD
Airfare	$ 6,500.00
Service Fee/Airfare	$ 43.00
Lodging/ 1 night @ Entebbe	$ 144.00
Lodging / 7 nights @ TBD	$ 434.00
Meals / Incidentals (2 travel days; 6 full days)	$ 360.00
Ground Transport/Freetown	$ 350.00
Ground Transport/Entebbe-TBD-Entebbe	$ 350.00
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ 200.00
Other (comm costs, Internet etc)	$ -
Visa	$ 50.00
# of Days	8
Total Per Trip	**$ 8,431.00**
No. of trips	1
No. of persons	1
SUBTOTAL:	**$ 8,431.00**

TOTAL TRAVEL BUDGET:	**$45,828**

USG Foreign Per Diem Rates (http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1239)

Location	Maximum Lodging	M&IE	Total
Wakiso/Hoima	62	48	110

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$85,141
1003	MATERIALS	$7,880
1004	ODCs	$3,542
1005	TRAVEL	$17,420
TOTAL		**$113,982.82**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	125	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist		-	$0.00
CLIN 1002	Scientific Mentor		-	$0.00
CLIN 1002	SME1		168	(b)(4); (b)(6)
CLIN 1002	SME2		-	$0.00
CLIN 1002	SME3		184	(b)(4); (b)(6)
CLIN 1002	Resaerch Collaborator		-	$0.00
CLIN 1002	Trainer 1		-	$0.00
CLIN 1002	Trainer 2		-	$0.00
CLIN 1002	Trainer 3		-	$0.00
CLIN 1002	Grants Manager		-	$0.00
CLIN 1002	Research and Data Analyst		-	$0.00
			TOTAL	(b)(4); (b)(6)

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET	Full Time Employee	IC Support by Activity
(b)(6)	FT	Program Manager	The Program Manager (PM) participates in and leads proposal development, tasking the Project Coordinator (PC) with specific assignments. The PM is also responsible for development of the budget to include labor estimates	49.0	$	(b)(4); (b)(6)		
	FT	SME 1	The Project Coordinator (PC) participates in proposal development by contributing ideas toward the plan and writing specific sections as tasked by the PM	44.0	$			
Phase 1 - Project Coordination & Landscape Analysis & SME Matching								
	FT	Program Manager	The PM will oversee coordination with relevant stakeholders, the development and submission of the training landscape review, and subject matter expert matching activities	12.0	$			
	FT	SME 1	The PC leads coordination with Kenyan stakeholders and the development of a training landscape analysis.	12.0	$			
Phase 2 - SME Review and Coordiantion								
	FT	Program Manager	The PM will oversee the coordination of review activities, as well as provide oversight and guidance for logistic coordination in anticipation of the workshop	5.0	$			
TBD	FT	SME 1	The Subject Matter Expert 1 (SME1)- representing Metabiota will review the relevant manuscripts prior to the writing workshop in order to attain an in-depth understanding of the participants' research goals in perparation.	20.0	$			
TBD	IC	SME 3	The Subject Matter Expert 3 ((SME3) Kenyan National) will review the relevant manuscripts prior to the writing workshop in order to attain an in-depth understanding of the participants' research goals in perparation	20.0	$			
TBD	IC	SME 3	The Subject Matter Expert 3 ((SME3) Kenyan National) will review the relevant manuscripts prior to the writing workshop in order to attain an in-depth understanding of the participants' research goals in perparation	20.0	$			
Phase 3 - Writing Workshop Implementation								
(b)(6)	FT	Program Manager	The PM will lead and oversee the conduction of the 5 day workshop and the 1 day post workshop review session. The PM will ensure project objectives and subcontractor requirements are met. The PM wil additionally coordinate post-action report submissions to the funder.	54.0	$			
TBD	IC	SME 3	The ((SME3) Kenyan National) will conduct workshop lectures related to their area of expertise and will lead working group sessions and individual mentorship to participants over 5 days. SME3 will additionally participate in the 1 day post workshop review activies, and draft TTRs and after action reports detailing the overall training processes and lessons learned	52.0	$			
TBD	IC	SME 3	The ((SME3) Kenyan National) will conduct workshop lectures related to their area of expertise and will lead working group sessions and individual mentorship to participants over 5 days. SME3 will additionally participate in the 1 day post workshop review activies, and draft TTRs and after action reports detailing the overall training processes and lessons learned	52.0	$			
TBD	FT	SME 1	The SME 1 representing from Metabiota will conduct workshop lectures related to their area of expertise and will lead working group sessions and individual mentorship to participants over 5 days. SME3 will additionally participate in the 1 day post workshop review activies, and draft TTRs and after action reports detailing the overall training processes and lessons learned	72.0	$			
Phase 4 - Post-Workshop Review and Summary Report Development								
(b)(6)	FT	Program Manager	The PM will provide oversight and coordination of final manuscript review activities	5.0	$			
TBD	FT	SME 1	The Subject Matter Expert 1 (SME1)- representing Metabiota will coordinate with SME 3 Kenyan Nationals and other SMEs not supported by Metabiota to provide review and final revision to workshop participants manuscripts.	20.0	$			
TBD	IC	SME 3	The ((SME3) Kenyan National) will coordinate with Metabiota SME 1, the other SME 3 Kenyan National, and other SMEs not supported by Metabiota to provide review and final revision to workshop participants manuscripts.	20.0	$			
TBD	IC	SME 3	The ((SME3) Kenyan National) will coordinate with Metabiota SME 1, the other SME 3 Kenyan National, and other SMEs not supported by Metabiota to provide review and final revision to workshop participants manuscripts	20.0	$			

$85,141.34

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	Scientific articles from online journals	$35.00	200	$ 7,000.00
1003	Office supplies	$100.00	1	$ 100.00
1003	USB Modem - International Comms	$19.25	4	$ 77.00
1003	12 GB Data Plan (for USB modem)	$28.89	4	$ 115.56
1003	Top Up Scratch Card - domestic/international calling	$9.63	20	$ 192.60
				$ -
			Sub-Total	7,485

(b)(4); (b)(6)

Fully Loaded Amnt

(b)(4); (b)(6)

CLIN No.	Item	Cost	Number of Req.	Total Billab e Amount $
1004	DBA nsurance	$ 2,712.40	1	2,712
1004				-
1004				-
1004				-
1004				-
			Sub-Total	2,712
			(b)(4); (b)(6)	(b)(4); (b)(6)
			Fully Loaded Amnt:	

Traveler:	PM, SME1
Departure Location:	Washington, DC
Destination:	Nairobi, Kenya
Purpose:	Implement scientific writing workshop
Airfare	$ 1,500.00
Service Fee/Airfare	$ -
Lodging / 7 nights @ Nairobe	$ 2,030.00
Meals / Incidentals (2 travel days @ 75%)	$ 180.00
Meals / Incidentals (8 days @ 100%)	$ 960.00
Ground Transport/US	$ 240.00
Ground Transport/Kenya	$ 500.00
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ 150.00
Other (comm costs, Internet etc)	$ -
Visa	$ 300.00
# of Days	10
Total Per Trip	$ 5,860.00
No. of trips	1
No. of persons	2
SUBTOTAL:	$ 11,720.00

Traveler:	2 x SME 3
Departure Location:	N/A
Destination:	Nairobi, Kenya
Purpose:	Implement scientific writing workshop
Airfare	$ -
Service Fee/Airfare	$ -
Lodging / 7 nights @ Nairobe	$ 2,030.00
Meals / Incidentals (travel days)	$ -
Meals / Incidentals (6 days @ 100%)	$ 720.00
Ground Transport US	$ -
Ground Transport/Kenya	$ 100.00
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ -
Visa	$ -
# of Days	7
Total Per Trip	$ 2,850.00
No. of trips	1
No. of persons	2
SUBTOTAL:	$ 5,700.00

Traveler:	
Departure Location:	
Destination:	
Purpose:	
Airfare	$ -
Service Fee/Airfare	$ -
Lodging / 7 nights @ TBD	$ -
Meals / Incidentals (2 travel days; 6 full days)	$ -
Ground Transport/US	$ -
Ground Transport/Entebbe-TBD-Entebbe	$ -
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ -
Visa	$ -
# of Days	0
Total Per Trip	$ -
No. of trips	0
No. of persons	0
SUBTOTAL:	$ -

Traveler:	
Departure Location:	
Destination:	
Purpose:	
Airfare	$ -
Service Fee/Airfare	$ -
Lodging/ 1 night @ Entebbe	$ -
Lodging / 13 nights @ TBD	$ -
Meals / Incidentals (2 travel days; 12 full days)	$ -
Ground Transport/Freetown	$ -
Ground Transport/Entebbe-TBD-Entebbe (included into TM MB)	$ -
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ -
Visa	$ -
# of Days	0
Total Per Trip	$ -
No. of trips	0
No. of persons	0
SUBTOTAL:	$ -

Traveler:	
Departure Location:	
Destination:	
Purpose	
Airfare	$ -
Service Fee/Airfare	$ -
Lodging/ 1 night @ Entebbe	$ -
Lodging / 7 nights @ TBD	$ -
Meals / Incidentals (2 travel days; 6 full days)	$ -
Ground Transport/Freetown	$ -
Ground Transport/Entebbe-TBD-Entebbe	$ -
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ -
Visa	$ -
# of Days	0
Total Per Trip	$ -
No. of trips	0
No. of persons	0
SUBTOTAL:	$ -

TOTAL TRAVEL BUDGET:	$17,420

USG Foreign Per Diem Rates (http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1239)

Location	Maximum Lodging	M&IE	Total
Nairobe, Kenya	290	120	410

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$85,141
1003	MATERIALS	$7,880
1004	ODCs	$3,542
1005	TRAVEL	$17,420
TOTAL		**$113,982.82**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	125	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist		-	$0.00
CLIN 1002	Scientific Mentor		-	$0.00
CLIN 1002	SME1		168	(b)(4); (b)(6)
CLIN 1002	SME2		-	$0.00
CLIN 1002	SME3		184	(b)(4); (b)(6)
CLIN 1002	Resaerch Collaborator		-	
CLIN 1002	Trainer 1		-	$0.00
CLIN 1002	Trainer 2		-	$0.00
CLIN 1002	Trainer 3		-	$0.00
CLIN 1002	Grants Manager		-	$0.00
CLIN 1002	Research and Data Analyst		-	$0.00
			TOTAL	(b)(4); (b)(6)

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET	Full Time Employee	IC Support by Activity
(b)(6)	FT	Program Manager	The Program Manager (PM) participates in and leads proposal development, tasking the Project Coordinator (PC) with specific assignments. The PM is also responsible for development of the budget to include labor estimates	49.0	$	(b)(4); (b)(6)		
	FT	SME 1	The Project Coordinator (PC) participates in proposal development by contributing ideas toward the plan and writing specific sections as tasked by the PM	44.0	$			
Phase 1 - Project Coordination & Landscape Analysis & SME Matching								
	FT	Program Manager	The PM will oversee coordination with relevant stakeholders, the development and submission of the training landscape review, and subject matter expert matching activities	12.0	$			
	FT	SME 1	The PC leads coordination with Kenyan stakeholders and the development of a training landscape analysis.	12.0	$			
Phase 2 - SME Review and Coordiantion								
	FT	Program Manager	The PM will oversee the coordination of review activities, as well as provide oversight and guidance for logistic coordination in anticipation of the workshop	5.0	$			
TBD	FT	SME 1	The Subject Matter Expert 1 (SME1)- representing Metabiota will review the relevant manuscripts prior to the writing workshop in order to attain an in-depth understanding of the participants' research goals in perparation.	20.0	$			
TBD	IC	SME 3	The Subject Matter Expert 3 ((SME3] Kenyan National) will review the relevant manuscripts prior to the writing workshop in order to attain an in-depth understanding of the participants' research goals in perparation	20.0	$			
TBD	IC	SME 3	The Subject Matter Expert 3 ((SME3] Kenyan National) will review the relevant manuscripts prior to the writing workshop in order to attain an in-depth understanding of the participants' research goals in perparation	20.0	$			
Phase 3 - Writing Workshop Implementation								
(b)(6)	FT	Program Manager	The PM will lead and oversee the conduction of the 5 day workshop and the 1 day post workshop review session. The PM will ensure project objectives and subcontractor requirements are met. The PM wil additionally coordinate post-action report submissions to the funder.	54.0	$			
TBD	IC	SME 3	The ((SME3) Kenyan National) will conduct workshop lectures related to their area of expertise and will lead working group sessions and individual mentorship to participants over 5 days. SME3 will additionally participate in the 1 day post workshop review activies, and draft TTRs and after action reports detailing the overall training processes and lessons learned	52.0	$			
TBD	IC	SME 3	The ((SME3) Kenyan National) will conduct workshop lectures related to their area of expertise and will lead working group sessions and individual mentorship to participants over 5 days. SME3 will additionally participate in the 1 day post workshop review activies, and draft TTRs and after action reports detailing the overall training processes and lessons learned	52.0	$			
TBD	FT	SME 1	The SME 1 representing from Metabiota will conduct workshop lectures related to their area of expertise and will lead working group sessions and individual mentorship to participants over 5 days. SME3 will additionally participate in the 1 day post workshop review activies, and draft TTRs and after action reports detailing the overall training processes and lessons learned	72.0	$			
Phase 4 - Post-Workshop Review and Summary Report Development								
(b)(6)	FT	Program Manager	The PM will provide oversight and coordination of final manuscript review activities	5.0	$			
TBD	FT	SME 1	The Subject Matter Expert 1 (SME1)- representing Metabiota will coordinate with SME 3 Kenyan Nationals and other SMEs not supported by Metabiota to provide review and final revision to workshop participants manuscripts.	20.0	$			
TBD	IC	SME 3	The ((SME3) Kenyan National) will coordinate with Metabiota SME 1, the other SME 3 Kenyan National, and other SMEs not supported by Metabiota to provide review and final revision to workshop participants manuscripts.	20.0	$			
TBD	IC	SME 3	The ((SME3) Kenyan National) will coordinate with Metabiota SME 1, the other SME 3 Kenyan National, and other SMEs not supported by Metabiota to provide review and final revision to workshop participants manuscripts	20.0	$			

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	Scientific articles from online journals	$35.00	200	$ 7,000.00
1003	Office supplies	$100.00	1	$ 100.00
1003	USB Modem - International Comms	$19.25	4	$ 77.00
1003	12 GB Data Plan (for USB modem)	$28.89	4	$ 115.56
1003	Top Up Scratch Card - domestic/international calling	$9.63	20	$ 192.60
				$ -
			Sub-Total	7,485
			(b)(4); (b)(6) Fully Loaded Amnt	(b)(4); (b)(6)

CLIN No.	Item	Cost	Number of Req.	Total Billab e Amount $
1004	DBA nsurance	$ 2,712.40	1	2,712
1004				-
1004				-
1004				-
1004				-
			Sub-Total	2,712
			(b)(4); (b)(6)	(b)(4); (b)(6)
			Fully Loaded Amnt:	

Traveler:	PM, SME1
Departure Location:	Washington, DC
Destination:	Nairobi, Kenya
Purpose:	Implement scientific writing workshop
Airfare	$ 1,500.00
Service Fee/Airfare	$ -
Lodging / 7 nights @ Nairobe	$ 2,030.00
Meals / Incidentals (2 travel days @ 75%)	$ 180.00
Meals / Incidentals (8 days @ 100%)	$ 960.00
Ground Transport/US	$ 240.00
Ground Transport/Kenya	$ 500.00
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ 150.00
Other (comm costs, Internet etc)	$ -
Visa	$ 300.00
# of Days	10
Total Per Trip	$ 5,860.00
No. of trips	1
No. of persons	2
SUBTOTAL:	$ 11,720.00

Traveler:	2 x SME 3
Departure Location:	N/A
Destination:	Nairobi, Kenya
Purpose:	Implement scientific writing workshop
Airfare	$ -
Service Fee/Airfare	$ -
Lodging / 7 nights @ Nairobe	$ 2,030.00
Meals / Incidentals (travel days)	$ -
Meals / Incidentals (6 days @ 100%)	$ 720.00
Ground Transport US	$ -
Ground Transport/Kenya	$ 100.00
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ -
Visa	$ -
# of Days	7
Total Per Trip	$ 2,850.00
No. of trips	1
No. of persons	2
SUBTOTAL:	$ 5,700.00

Traveler:	
Departure Location:	
Destination:	
Purpose:	
Airfare	$ -
Service Fee/Airfare	$ -
Lodging / 7 nights @ TBD	$ -
Meals / Incidentals (2 travel days; 6 full days)	$ -
Ground Transport/US	$ -
Ground Transport/Entebbe-TBD-Entebbe	$ -
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ -
Visa	$ -
# of Days	0
Total Per Trip	$ -
No. of trips	0
No. of persons	0
SUBTOTAL:	$ -

Traveler:	
Departure Location:	
Destination:	
Purpose:	
Airfare	$ -
Service Fee/Airfare	$ -
Lodging/ 1 night @ Entebbe	$ -
Lodging / 13 nights @ TBD	$ -
Meals / Incidentals (2 travel days; 12 full days)	$ -
Ground Transport/Freetown	$ -
Ground Transport/Entebbe-TBD-Entebbe (included into TM MB)	$ -
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ -
Visa	$ -
# of Days	0
Total Per Trip	$ -
No. of trips	0
No. of persons	0
SUBTOTAL:	$ -

Traveler:	
Departure Location:	
Destination:	
Purpose	
Airfare	$ -
Service Fee/Airfare	$ -
Lodging/ 1 night @ Entebbe	$ -
Lodging / 7 nights @ TBD	$ -
Meals / Incidentals (2 travel days; 6 full days)	$ -
Ground Transport/Freetown	$ -
Ground Transport/Entebbe-TBD-Entebbe	$ -
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ -
Visa	$ -
# of Days	0
Total Per Trip	$ -
No. of trips	0
No. of persons	0
SUBTOTAL:	$ -

TOTAL TRAVEL BUDGET:	$17,420

USG Foreign Per Diem Rates (http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1239)

Location	Maximum Lodging	M&IE	Total
Nairobe, Kenya	290	120	410

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$85,141
1003	MATERIALS	$7,880
1004	ODCs	$3,542
1005	TRAVEL	$17,420
TOTAL		**$113,983**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	125	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist		-	$0.00
CLIN 1002	Scientific Mentor		-	$0.00
CLIN 1002	SME1		168	(b)(4); (b)(6)
CLIN 1002	SME2		-	$0.00
CLIN 1002	SME3		184	(b)(4); (b)(6)
CLIN 1002	Resaerch Collaborator		-	$0.00
CLIN 1002	Trainer 1		-	$0.00
CLIN 1002	Trainer 2		-	$0.00
CLIN 1002	Trainer 3		-	$0.00
CLIN 1002	Grants Manager		-	$0.00
CLIN 1002	Research and Data Analyst		-	$0.00
			TOTAL	(b)(4); (b)(6)

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET	Full Time Employee	IC Support by Activity
(b)(6)	FT	Program Manager	The Program Manager (PM) participates in and leads proposal development, tasking the Project Coordinator (PC) with specific assignments. The PM is also responsible for development of the budget to include labor estimates	49.0	$	(b)(4); (b)(6)		
	FT	SME 1	The Project Coordinator (PC) participates in proposal development by contributing ideas toward the plan and writing specific sections as tasked by the PM	44.0	$			
Phase 1 - Project Coordination & Landscape Analysis & SME Matching								
	FT	Program Manager	The PM will oversee coordination with relevant stakeholders, the development and submission of the training landscape review, and subject matter expert matching activities	12.0				
	FT	SME 1	The PC leads coordination with Kenyan stakeholders and the development of a training landscape analysis.	12.0	$			
Phase 2 - SME Review and Coordiantion								
	FT	Program Manager	The PM will oversee the coordination of review activities, as well as provide oversight and guidance for logistic coordination in anticipation of the workshop	5.0	$			
TBD	FT	SME 1	The Subject Matter Expert 1 (SME1) - representing Metabiota will review the relevant manuscripts prior to the writing workshop in order to attain an in-depth understanding of the participants' research goals in perparation.	20.0	$			
TBD	IC	SME 3	The Subject Matter Expert 3 ((SME3] Kenyan National) will review the relevant manuscripts prior to the writing workshop in order to attain an in-depth understanding of the participants' research goals in perparation	20.0	$			
TBD	IC	SME 3	The Subject Matter Expert 3 ((SME3] Kenyan National) will review the relevant manuscripts prior to the writing workshop in order to attain an in-depth understanding of the participants' research goals in perparation	20.0	$			
Phase 3 - Writing Workshop Implementation								
(b)(6)	FT	Program Manager	The PM will lead and oversee the conduction of the 5 day workshop and the 1 day post workshop review session. The PM will ensure project objectives and subcontractor requirements are met. The PM wil additionally coordinate post-action report submissions to the funder.	54.0	$			
TBD	IC	SME 3	The {(SME3) Kenyan National) will conduct workshop lectures related to their area of expertise and will lead working group sessions and individual mentorship to participants over 5 days. SME3 will additionally participate in the 1 day post workshop review activies, and draft TTRs and after action reports detailing the overall training processes and lessons learned	52.0	$			
TBD	IC	SME 3	The {(SME3) Kenyan National) will conduct workshop lectures related to their area of expertise and will lead working group sessions and individual mentorship to participants over 5 days. SME3 will additionally participate in the 1 day post workshop review activies, and draft TTRs and after action reports detailing the overall training processes and lessons learned	52.0	$			
TBD	FT	SME 1	The SME 1 representing from Metabiota will conduct workshop lectures related to their area of expertise and will lead working group sessions and individual mentorship to participants over 5 days. SME3 will additionally participate in the 1 day post workshop review activies, and draft TTRs and after action reports detailing the overall training processes and lessons learned	72.0	$			
Phase 4 - Post-Workshop Review and Summary Report Development								
(b)(6)	FT	Program Manager	The PM will provide oversight and coordination of final manuscript review activities	5.0	$			
TBD	FT	SME 1	The Subject Matter Expert 1 (SME1) - representing Metabiota will coordinate with SME 3 Kenyan Nationals and other SMEs not supported by Metabiota to provide review and final revision to workshop participants manuscripts.	20.0	$			
TBD	IC	SME 3	The {(SME3) Kenyan National) will coordinate with Metabiota SME 1, the other SME 3 Kenyan National, and other SMEs not supported by Metabiota to provide review and final revision to workshop participants manuscripts.	20.0	$			
TBD	IC	SME 3	The {(SME3) Kenyan National) will coordinate with Metabiota SME 1, the other SME 3 Kenyan National, and other SMEs not supported by Metabiota to provide review and final revision to workshop participants manuscripts	20.0	$			

$85,141.34

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	Scientific articles from online journals	$35.00	200	$ 7,000.00
1003	Office supplies	$100.00	1	$ 100.00
1003	USB Modem - International Comms	$19.25	4	$ 77.00
1003	12 GB Data Plan (for USB modem)	$28.89	4	$ 115.56
1003	Top Up Scratch Card - domestic/international calling	$9.63	20	$ 192.60
				$ -
			Sub-Total	7,485
			SMH Fully Loaded Amnt	(b)(4); (b)(6)

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA nsurance	$ 2,712.40	1	2,712
1004				-
1004				-
1004				-
1004				-
			Sub-Total	2,712
			Ca(b)(4); (b)(6)	(b)(4); (b)(6)
			Fully Loaded Amnt:	

Traveler:	PM, SME1
Departure Location:	Washington, DC
Destination:	Nairobi, Kenya
Purpose:	Implement scientific writing workshop
Airfare	$ 1,500.00
Service Fee/Airfare	$ -
Lodging / 7 nights @ Nairobe	$ 2,030.00
Meals / Incidentals (2 travel days @ 75%)	$ 180.00
Meals / Incidentals (8 days @ 100%)	$ 960.00
Ground Transport/US	$ 240.00
Ground Transport/Kenya	$ 500.00
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ 150.00
Other (comm costs, Internet etc)	$ -
Visa	$ 300.00
# of Days	10
Total Per Trip	**$ 5,860.00**
No. of trips	1
No. of persons	2
SUBTOTAL:	**$ 11,720.00**

Traveler:	2 x SME 3
Departure Location:	N/A
Destination:	Nairobi, Kenya
Purpose:	Implement scientific writing workshop
Airfare	$ -
Service Fee/Airfare	$ -
Lodging / 7 nights @ Nairobe	$ 2,030.00
Meals / Incidentals (travel days)	$ -
Meals / Incidentals (6 days @ 100%)	$ 720.00
Ground Transport US	$ -
Ground Transport/Kenya	$ 100.00
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ -
Visa	$ -
# of Days	7
Total Per Trip	**$ 2,850.00**
No. of trips	1
No. of persons	2
SUBTOTAL:	**$ 5,700.00**

Traveler:	
Departure Location:	
Destination:	
Purpose:	
Airfare	$ -
Service Fee/Airfare	$ -
Lodging / 7 nights @ TBD	$ -
Meals / Incidentals (2 travel days; 6 full days)	$ -
Ground Transport/US	$ -
Ground Transport/Entebbe-TBD-Entebbe	$ -
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ -
Visa	$ -
# of Days	0
Total Per Trip	**$ -**
No. of trips	0
No. of persons	0
SUBTOTAL:	**$ -**

Traveler:	
Departure Location:	
Destination:	
Purpose:	
Airfare	$ -
Service Fee/Airfare	$ -
Lodging / 1 night @ Entebbe	$ -
Lodging / 13 nights @ TBD	$ -
Meals / Incidentals (2 travel days; 12 full days)	$ -
Ground Transport/Freetown	$ -
Ground Transport/Entebbe-TBD-Entebbe (included into TM MB)	$ -
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ -
Visa	$ -
# of Days	0
Total Per Trip	**$ -**
No. of trips	0
No. of persons	0
SUBTOTAL:	**$ -**

Traveler:	
Departure Location:	
Destination:	
Purpose	
Airfare	$ -
Service Fee/Airfare	$ -
Lodging/ 1 night @ Entebbe	$ -
Lodging / 7 nights @ TBD	$ -
Meals / Incidentals (2 travel days; 6 full days)	$ -
Ground Transport/Freetown	$ -
Ground Transport/Entebbe-TBD-Entebbe	$ -
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ -
Visa	$ -
# of Days	0
Total Per Trip	**$ -**
No. of trips	0
No. of persons	0
SUBTOTAL:	**$ -**

TOTAL TRAVEL BUDGET:	**$17,420**

USG Foreign Per Diem Rates (http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1239)

Location	Maximum Lodging	M&IE	Total
Nairobe, Kenya	290	120	410

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$132,202.28
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$132,202.28**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	[redacted]	116	[redacted]
CLIN 1002	Visiting Scientist	[redacted]	-	$0.00
CLIN 1002	Scientific Mentor	[redacted]	-	$0.00
CLIN 1002	SME1	[redacted]	116	[redacted]
CLIN 1002	SME2	[redacted]	122	[redacted]
CLIN 1002	SME3	[redacted]	-	$0.00
CLIN 1002	Resaerch Collaborator	[redacted]	-	$0.00
CLIN 1002	Trainer 1	[redacted]	-	$0.00
CLIN 1002	Trainer 2	[redacted]	-	$0.00
CLIN 1002	Trainer 3	[redacted]	-	$0.00
CLIN 1002	Grants Manager	[redacted]	-	$0.00
CLIN 1002	Research and Data Analyst	[redacted]	1,080	[redacted]
			TOTAL	[redacted]

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET	Full Time Employee	IC Support by Activity
(b)(6)		PM	Program Manager to provide management oversight and coherent approach across EUCOM TDs	116.0	(b)(4); (b)(6)			
		SME1	Project Coordinator to ensure all contractual deadlines and deliverables are met, and to manage day-to-day requirements of project team	116.0				
		SME2	Leads subject matter expertise or this effort	12.0				
Mentoring and Research Collaboration								
(b)(6)		SME2	Leads subject matter expertise or this effort	110.0				
Additional SME support to be named		RDA	Provides additional manpower to data analysis and mentoring efforts on all three CBR projects as needed	1080.0				

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003				$ -
1003				$ -
				$ -
				$ -
				$ -
				$ -
			Sub-Total	-
			SMI (b)(4); (b)(6)	-
			Full [illegible] Amnt:	-

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance			-
1004				-
1004				-
1004				-
1004				-
			Sub-Total	-
			(b)(4); (b)(6)	-
			Fully Loaded Amnt:	-

Traveler:		
Departure Location:		
Destination:		
Purpose:		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 6 full days)	$	-
Ground Transport/US	$	-
Ground Transport/Entebbe-TBD-Entebbe	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

Traveler:		
Departure Location:		
Destination:		
Purpose		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 13 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 12 full days)	$	-
Ground Transport US	$	-
Ground Transport/Entebbe-TBD-Entebbe	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

Traveler:		
Departure Location:		
Destination:		
Purpose:		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 6 full days)	$	-
Ground Transport/US	$	-
Ground Transport/Entebbe-TBD-Entebbe	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

Traveler:		
Departure Location:		
Destination:		
Purpose		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 13 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 12 full days)	$	-
Ground Transport/Freetown	$	-
Ground Transport/Entebbe-TBD-Entebbe (included into TM MB)	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

Traveler:		
Departure Location:		
Destination:		
Purpose:		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 6 full days)	$	-
Ground Transport/Freetown	$	-
Ground Transport/Entebbe-TBD-Entebbe	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

TOTAL TRAVEL BUDGET:	**$0**

USG Foreign Per Diem Rates (http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1239)

Location	Maximum Lodging	M&IE	Total
Wakiso/Hoima	62	48	110

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$123,504
1003	MATERIALS	$0
1004	ODCs	$1,754
1005	TRAVEL	$14,257
TOTAL		**$139,514.62**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	121	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist		-	$0.00
CLIN 1002	Scientific Mentor		-	$0.00
CLIN 1002	SME1		143	(b)(4); (b)(6)
CLIN 1002	SME2		520	
CLIN 1002	SME3		-	$0.00
CLIN 1002	Research Collaborator		-	$0.00
CLIN 1002	Trainer 1		-	$0.00
CLIN 1002	Trainer 2		-	$0.00
CLIN 1002	Trainer 3		-	$0.00
CLIN 1002	Grants Manager		-	$0.00
CLIN 1002	Research and Data Analyst		-	$0.00
			TOTAL	(b)(4); (b)(6)

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET
(b)(6)	Metabiota	PM	The Program Manager (PM) participates in and leads proposal development, tasking the Project Coordinator (PC) with specific assignments. The PM is also responsible for development of the budget to include labor estimates.	16.0	(b)(4); (b)(6)	
	Metabiota	SME1	The Project Coordinator (PC) participates in proposal development by contributing ideas toward the plan and writing specific sections as tasked by the PM.	8.0		
Project Coordination						
(b)(6)	Metabiota	PM	The PM will provide oversight of the planning and execution of program objectives towards the completion of DTRA CBEP goals at the regional level and will lead communication with DTRA CBEP for this activity.	47.0		
	Metabiota	SME1	The SME 1 will act as a Project Coordinator (PC) throughout the planning and execution of project objectives, including regularly communicate the project status with the PM and will manage the GIS SME, including all subcontractors, to ensure all project requirements and deliverables are met and the program remains within scope, budget, and timeline.	67.0		
	Sub or IC	SME2	The SME 2 will serve as the GIS SME. The SME 2 will participate in regular project coordination communications (teleconferences, emails) to ensure that they understand the context of each project, the needs and expectations of the Georgian scientists, and the GIS subject matter expertise needed.	27.0		
	Metabiota	PM	The PM will provide oversight and planning leading up to and during the in-country mentoring of the TBD SME2. This includes, but is not limited to, ensuring all travel and training CDRL's are submitted on time	48.0	$	(b)(4); (b)(6)
	Metabiota	SME1	The PC will provide oversight and planning leading up to and during the in-country mentoring of the TBD SME2. This includes, but is not limited to, ensuring all travel and training CDRL's are submitted on time	48.0	$	
TBD	Sub or IC	SME2	The SME2 will be responsible for implementing all GIS-related training identified as part of TD-016 (e.g., GG 19, 20, and 22).	222.0	$	
(b)(6)	Metabiota	PM	The PM will provide oversight and guidance, as needed, for reachback activities associated with implementing TD-016 activities.	10.0	$	
	Metabiota	SME1	The PC will provide oversight and guidance, as needed, for reachback activities associated with implementing TD-016 activities.	20.0	$	
TBD	Sub or IC	SME2	The SME2 will be responsible for serving as GIS SME reachback support for all GIS-related activities identified as part of TD-016 (e.g., GG 19, 20, and 22).	271.0	$	

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003				$ -
1003				$ -
				$ -
				$ -
				$ -
				$ -
			Sub-Total	-
			(b)(4); (b)(6)	-
			Fully Loaded Amnt:	-

CLIN No.	Item	Cost	Number of Req.	Total Billab e Amount $
1004	DBA nsurance	$ 1,343.00	1	1,343
1004				-
1004				-
1004				-
1004				-
			Sub-Total	1,343
			(b)(4); (b)(6)	(b)(4); (b)(6)
			Fully Loaded Amnt:	

	International	International
Traveler:	GIS SME	GIS SME
Departure Location:	CONUS	CONUS
Destination:	Tbilisi, Georgia	Baku, Azerbaijan
Purpose:	mentoring	mentoring
Airfare	$1,600	$2,000
Service fee	$43	$43
Lodging	1,652	1,722
Meals / Incidentals	630	690
Meals / Incidentals (First and Last Travel Days)	158	173
Ground Transport	$300	$300
Ground Transport (OCONUS)	$30	$30
Daily Ground	$60	$60
Incidentals (Visa)	0	294
total # days	8	8
# of nights lodging	7	7
Total Per Trip	**$4,473**	**$5,312**
No. of trips	2	1
No. of persons	1	1
SUBTOTAL:	**$8,945**	**$5,312**

GRAND TOTAL
$14,257

USG Foreign Per Diem Rates (Sep. 2015)			
Location	**Maximum Lodging**	**M&IE**	**Total**
Tbilisi, Georgia	236	105	341
Baku, Azerbaijan	246	115	361

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$116,462
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$31,357
TOTAL		**$147,819.10**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	110	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist		-	$0.00
CLIN 1002	Scientific Mentor		-	$0.00
CLIN 1002	SME1		110	(b)(4); (b)(6)
CLIN 1002	SME2		525	
CLIN 1002	SME3		-	$0.00
CLIN 1002	Resaerch Collaborator		-	$0.00
CLIN 1002	Trainer 1		-	$0.00
CLIN 1002	Trainer 2		-	$0.00
CLIN 1002	Trainer 3		-	$0.00
CLIN 1002	Grants Manager		-	$0.00
CLIN 1002	Research and Data Analyst		-	$0.00
			TOTAL	(b)(4); (b)(6)

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET	Full Time Employee	IC Support by Activity

CLIN No.	Item	Cost	Number of Req.	Total Billab e Amount $
‘003				$ -
‘003				$ -
				$ -
				$ -
				$ -
				$ -
			Sub-Total	-
			(b)(4); (b)(6)	-
			Fully Loaded Amnt:	-

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance			-
1004				-
1004				-
1004				-
1004				-
			Sub-Total	-
			(b)(4); (b)(6)	-
			Fully Loaded Amnt:	-

Traveler:	1.5 persons, TBD, late July
Departure Location:	Blacksburg, VA
Destination:	Tbilisi, Georgia
Purpose:	Grantsmanship mentoring
Airfare	$ 3,000.00
Service Fee/Airfare	$ 43.00
Lodging/ 13 nights	$ 3,068.00
Lodging / 7 nights @ TBD	$ -
Meals / Incidentals (2 travel days; 15 full days)	$ 1,732.50
Ground Transport/US	$ 300.00
Ground Transport/destination (includes airport transfer & daily transportation)	$ 760.00
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ 120.00
Visa	$ -
# of Days	17
Total Per Trip	**$ 9,023.50**
No. of trips	1
No. of persons	1.5
SUBTOTAL:	**$ 13,535.25**

Traveler	1.5 persons, TBD, late September
Departure Location:	Blacksburg, VA
Destination:	Tbilisi, Georgia
Purpose:	Grantsmanship mentoring
Airfare	$ 2,000.00
Service Fee/Airfare	$ 43.00
Lodging/ 13 nights	$ 3,068.00
Lodging / 7 nights @ TBD	$ -
Meals / Incidentals (2 travel days; 15 full days)	$ 1,732.50
Ground Transport/US	$ 300.00
Ground Transport/destination (includes airport transfer & daily transportation)	$ 760.00
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ 120.00
Visa	$ -
# of Days	17
Total Per Trip	**$ 8,023.50**
No. of trips	1
No. of persons	1.5
SUBTOTAL:	**$ 12,035.25**

Traveler:	1 person, TBD, early November
Departure Location:	Blacksburg, VA
Destination:	Tbilisi, Georgia
Purpose:	Grantsmanship mentoring
Airfare	$ 2,500.00
Service Fee/Airfare	$ 43.00
Lodging/ 6 nights	$ 1,416.00
Lodging / 7 nights @ TBD	$ -
Meals / Incidentals (2 travel days; 8 full days)	$ 997.50
Ground Transport/US	$ 300.00
Ground Transport/destination (includes airport transfer & daily transportation)	$ 410.00
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ 120.00
Visa	$ -
# of Days	10
Total Per Trip	**$ 5,786.50**
No. of trips	1
No. of persons	1
SUBTOTAL:	**$ 5,786.50**

Traveler	
Departure Location:	
Destination:	
Purpose:	
Airfare	$ -
Service Fee/Airfare	$ -
Lodging/ 1 night @ Entebbe	$ -
Lodging / 13 nights @ TBD	$ -
Meals / Incidentals (2 travel days; 12 full days)	$ -
Ground Transport/Freetown	$ -
Ground Transport/Entebbe-TBD-Entebbe (included into TM MB)	$ -
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ -
Visa	$ -
# of Days	0
Total Per Trip	$ -
No. of trips	0
No. of persons	0
SUBTOTAL:	**$ -**

Traveler	
Departure Location:	
Destination:	
Purpose:	
Airfare	$ -
Service Fee/Airfare	$ -
Lodging/ 1 night @ Entebbe	$ -
Lodging / 7 nights @ TBD	$ -
Meals / Incidentals (2 travel days; 6 full days)	$ -
Ground Transport/Freetown	$ -
Ground Transport/Entebbe-TBD-Entebbe	$ -
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ -
Visa	$ -
# of Days	0
Total Per Trip	$ -
No. of trips	0
No. of persons	0
SUBTOTAL:	**$ -**

TOTAL TRAVEL BUDGET:	**$31,357.00**

USG Foreign Per Diem Rates (http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1239)

Location	Maximum Lodging	M&IE	Total
Tbilisi, Georgia	236	105	341

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$108,935.40
1003	MATERIALS	$0.00
1004	ODCs	$0.00
1005	TRAVEL	$25,570.50
TOTAL		**$134,505.90**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	110	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist		-	$0.00
CLIN 1002	Scientific Mentor		-	$0.00
CLIN 1002	SME1		110	(b)(4); (b)(6)
CLIN 1002	SME2		480	
CLIN 1002	SME3		-	$0.00
CLIN 1002	Research Collaborator		-	$0.00
CLIN 1002	Trainer 1		-	$0.00
CLIN 1002	Trainer 2		-	$0.00
CLIN 1002	Trainer 3		-	$0.00
CLIN 1002	Grants Manager		-	$0.00
CLIN 1002	Research and Data Analyst		-	$0.00
			TOTAL	(b)(4); (b)(6)

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET	Full Time Employee	IC Support by Activity
[redacted]								
Proposal development for TD revisions is currently being billed to overhead, as previously agreed.				0.0	$ -	$ -		
[redacted]								
(b)(6) [redacted]		PM	Program Manager to provide management, oversight and coherent approach across EUCOM TDs	110.0	$ (b)(4); (b)(6) [redacted]			
		SME1	Project Coordinator to ensure all contractual deadlines and programmatic deliverables are met, and to manage day-to-day requirements of project team	110.0	$			
		SME2	Provides subject matter expertise on this effort	56.0	$			
In-country Grantsmanship Mentoring								
(b)(6) [redacted]		SME2	Provides subject matter expertise on this effort	288.0	$		[redacted]	
[redacted] Mentoring								
(b)(6) [redacted]		SME2	Provides subject matter expertise on this effort	140.0	$			

CLIN No.	Item	Cost	Number of Req.	Total Billab e Amount $
‘003				$ -
‘003				$ -
				$ -
				$ -
				$ -
				$ -
			Sub-Total	-
			(b)(4); (b)(6)	-
			Fully Loaded Amnt:	-

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance			-
1004				-
1004				-
1004				-
1004				-
			Sub-Total	-
			(b)(4); (b)(6)	-
			Fully Loaded Amnt:	-

Traveler:	1.5 persons, TBD, late July	
Departure Location:	Blacksburg, VA	
Destination:	Tbilisi, Georgia	
Purpose:	Grantsmanship mentoring	
Airfare	$	3,000.00
Service Fee/Airfare	$	43.00
Lodging/ 13 nights	$	3,068.00
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 15 full days)	$	1,732.50
Ground Transport/US	$	300.00
Ground Transport/destination (includes airport transfer & daily transportation)	$	760.00
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	120.00
Visa	$	-
# of Days		17
Total Per Trip	**$**	**9,023.50**
No. of trips		1
No. of persons		1.5
SUBTOTAL:	**$**	**13,535.25**

Traveler	1.5 persons, TBD, late September	
Departure Location:	Blacksburg, VA	
Destination:	Tbilisi, Georgia	
Purpose:	Grantsmanship mentoring	
Airfare	$	2,000.00
Service Fee/Airfare	$	43.00
Lodging/ 13 nights	$	3,068.00
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 15 full days)	$	1,732.50
Ground Transport/US	$	300.00
Ground Transport/destination (includes airport transfer & daily transportation)	$	760.00
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	120.00
Visa	$	-
# of Days		17
Total Per Trip	**$**	**8,023.50**
No. of trips		1
No. of persons		1.5
SUBTOTAL:	**$**	**12,035.25**

Traveler:	1 person, TBD, early November	
Departure Location:	Blacksburg, VA	
Destination:	Tbilisi, Georgia	
Purpose:	Grantsmanship mentoring	
Airfare	$	2,500.00
Service Fee/Airfare	$	43.00
Lodging/ 6 nights	$	1,416.00
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 8 full days)	$	997.50
Ground Transport/US	$	300.00
Ground Transport/destination (includes airport transfer & daily transportation)	$	410.00
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	120.00
Visa	$	-
# of Days		10
Total Per Trip	**$**	**5,786.50**
No. of trips		0
No. of persons		1
SUBTOTAL:	**$**	**-**

Traveler		
Departure Location:		
Destination:		
Purpose:		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 13 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 12 full days)	$	-
Ground Transport/Freetown	$	-
Ground Transport/Entebbe-TBD-Entebbe (included into TM MB)	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	**$**	**-**
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

Traveler		
Departure Location:		
Destination:		
Purpose:		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 6 full days)	$	-
Ground Transport/Freetown	$	-
Ground Transport/Entebbe-TBD-Entebbe	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	**$**	**-**
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

TOTAL TRAVEL BUDGET:	**$25,570.50**

USG Foreign Per Diem Rates (http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1239)

Location	Maximum Lodging	M&IE	Total
Tbilisi, Georgia	236	105	341

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$125,869
1003	MATERIALS	$1,842
1004	ODCs	$948
1005	TRAVEL	$8,273
TOTAL		**$136,732.08**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	102	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist		-	$0.00
CLIN 1002	Scientific Mentor		-	$0.00
CLIN 1002	SME1		181	(b)(4); (b)(6)
CLIN 1002	SME2		520	
CLIN 1002	SME3		-	$0.00
CLIN 1002	Resaerch Collaborator		-	$0.00
CLIN 1002	Trainer 1		-	$0.00
CLIN 1002	Trainer 2		-	$0.00
CLIN 1002	Trainer 3		-	$0.00
CLIN 1002	Grants Manager		-	$0.00
CLIN 1002	Research and Data Analyst		-	$0.00
			TOTAL	(b)(4); (b)(6)

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET
(b)(6)	Metabiota	PM	Program Manager	8.0		
	Metabiota	SME1	Project Coordinator	17.0		
TBD	Metabiota/Sub/IC	SME2	Grantsmanship SME	0.0		
Project Coordination						
(b)(6)	Metabiota	PM	Program Manager	82.0		
	Metabiota	SME1	Project Coordinator	144.0		
TBD	Metabiota/Sub/IC	SME2	Grantsmanship SME	**40.0**		
In-Country Mentoring						
(b)(6)	Metabiota	PM	Program Manager	12.0		
	Metabiota	SME1	Project Coordinator	**20.0**		
TBD	Metabiota/Sub/IC	SME2	Grantsmanship SME	120.0		
Reach-back Support						
(b)(6)	Metabiota	PM	Program Manager	0.0		
	Metabiota	SME1	Project Coordinator	**0.0**		
TBD	Metabiota/Sub/IC	SME2	Grantsmanship SME	360.0		

(b)(4); (b)(6)

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	Journal articles	$35.00	50	$ 1,750.00
1003				$ -
				$ -
				$ -
				$ -
				$ -
			Sub-Total	1,750
			(b)(4); (b)(6)	
			Fully Loaded Amnt.	

(b)(4); (b)(6)

CLIN No.	Item	Cost	Number of Req.	Total Billab e Amount $
1004	DBA nsurance	$ 725.95	1	726
1004				-
1004				-
1004				-
1004				-
			Sub-Total	726
			(b)(4); (b)(6)	(b)(4); (b)(6)
			Fully Loaded Amnt:	

Traveler:	**International**	SME TBD
Departure Location:		Washington DC
Destination:		Tbillsi Georgia
Purpose:		Grantsmanship work with Georgians
Airfare	$	1,500.00
Service Fee	$	43.00
Lodging 6 nights	$	1,416.00
Meals / Incidentals 2 Travel days 6 Full Days	$	787.50
Ground Transport US	$	300.00
Ground Transport Tbillisi	$	30.00
Daily Ground Transport	$	60.00
# of Days	$	6.00
Total Per Trip		**$4,137**
No. of trips		2
No. of persons		1
SUBTOTAL:		**$8,273**
TOTAL TRAVEL BUDGET:		**$8,273**

USG Foreign Per Diem Rates (http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1239)

Location	Maximum Lodging	M&IE	Total
Tbilisi, Georgia	**236**	**105**	**341**

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$108,935.40
1003	MATERIALS	$0.00
1004	ODCs	$0.00
1005	TRAVEL	$25,570.50
TOTAL		**$134,505.90**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	110	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist		-	$0.00
CLIN 1002	Scientific Mentor		-	$0.00
CLIN 1002	SME1		110	(b)(4); (b)(6)
CLIN 1002	SME2		480	
CLIN 1002	SME3		-	$0.00
CLIN 1002	Research Collaborator		-	$0.00
CLIN 1002	Trainer 1		-	$0.00
CLIN 1002	Trainer 2		-	$0.00
CLIN 1002	Trainer 3		-	$0.00
CLIN 1002	Grants Manager		-	$0.00
CLIN 1002	Research and Data Analyst		-	$0.00
			TOTAL	(b)(4); (b)(6)

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET	Full Time Employee	IC Support by Activity
Proposa development for TD revisions is currently being billed to overhead, as previously agreed.				0.0	$ -	$ -		
(b)(6)		PM	Program Manager to provide management, oversight and coherent approach across EUCOM TDs	110.0	$			
		SME1	Project Coordinator to ensure all contractual deadlines and programmatic deliverables are met, and to manage day-to-day recuirements of project team	110.0	$			
		SME2	Provides subject matter expertise or this effort	56.0	$			
In-country Grantsmanship Mentoring								
(b)(6)		SME2	Provides subject matter expertise or this effort	288.0	$			
Reach-back/Remote Mentoring								
(b)(6)		SME2	Provides subject matter expertise or this effort	140.0	$			

(b)(4); (b)(6)

CLIN No.	Item	Cost	Number of Req.	Total Billab e Amount $
‘003				$ -
‘003				$ -
				$ -
				$ -
				$ -
				$ -
			Sub-Total	-
			(b)(4); (b)(6)	-
			Fully Loaded Amnt:	-

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance			-
1004				-
1004				-
1004				-
1004				-
			Sub-Total	-
			(b)(4)	-
			Fully Loaded Amnt:	-

Traveler:	1.5 persons, TBD, late July	
Departure Location:	Blacksburg, VA	
Destination:	Tbilisi, Georgia	
Purpose:	Grantsmanship mentoring	
Airfare	$	3,000.00
Service Fee/Airfare	$	43.00
Lodging/ 13 nights	$	3,068.00
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 15 full days)	$	1,732.50
Ground Transport/US	$	300.00
Ground Transport/destination (includes airport transfer & daily transportation)	$	760.00
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	120.00
Visa	$	-
# of Days		17
Total Per Trip	**$**	**9,023.50**
No. of trips		1
No. of persons		1.5
SUBTOTAL:	**$**	**13,535.25**

Traveler	1.5 persons, TBD, late September	
Departure Location:	Blacksburg, VA	
Destination:	Tbilisi, Georgia	
Purpose:	Grantsmanship mentoring	
Airfare	$	2,000.00
Service Fee/Airfare	$	43.00
Lodging/ 13 nights	$	3,068.00
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 15 full days)	$	1,732.50
Ground Transport/US	$	300.00
Ground Transport/destination (includes airport transfer & daily transportation)	$	760.00
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	120.00
Visa	$	-
# of Days		17
Total Per Trip	**$**	**8,023.50**
No. of trips		1
No. of persons		1.5
SUBTOTAL:	**$**	**12,035.25**

Traveler:	1 person, TBD, early November	
Departure Location:	Blacksburg, VA	
Destination:	Tbilisi, Georgia	
Purpose:	Grantsmanship mentoring	
Airfare	$	2,500.00
Service Fee/Airfare	$	43.00
Lodging/ 6 nights	$	1,416.00
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 8 full days)	$	997.50
Ground Transport/US	$	300.00
Ground Transport/destination (includes airport transfer & daily transportation)	$	410.00
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	120.00
Visa	$	-
# of Days		10
Total Per Trip	**$**	**5,786.50**
No. of trips		0
No. of persons		1
SUBTOTAL:	**$**	**-**

Traveler		
Departure Location:		
Destination:		
Purpose:		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 13 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 12 full days)	$	-
Ground Transport/Freetown	$	-
Ground Transport/Entebbe-TBD-Entebbe (included into TM MB)	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	**$**	**-**
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

Traveler		
Departure Location:		
Destination:		
Purpose:		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 6 full days)	$	-
Ground Transport/Freetown	$	-
Ground Transport/Entebbe-TBD-Entebbe	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	**$**	**-**
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

TOTAL TRAVEL BUDGET:	**$25,570.50**

USG Foreign Per Diem Rates (http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1239)

Location	Maximum Lodging	M&IE	Total
Tbilisi, Georgia	236	105	341

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$361,460
1003	MATERIALS	$4,579
1004	ODCs	$14,180
1005	TRAVEL	$4,217
TOTAL		**$384,435.70**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	130	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist		1,104	
CLIN 1002	Scientific Mentor		-	$0.00
CLIN 1002	SME1		201	(b)(4); (b)(6)
CLIN 1002	SME2		-	$0.00
CLIN 1002	SME3		-	$0.00
CLIN 1002	Resaerch Collaborator		-	$0.00
CLIN 1002	Trainer 1		-	$0.00
CLIN 1002	Trainer 2		-	$0.00
CLIN 1002	Trainer 3		-	$0.00
CLIN 1002	Grants Manager		-	$0.00
CLIN 1002	Research and Data Analyst		-	$0.00
			TOTAL	(b)(4); (b)(6)

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET
[redacted]						
(b)(6)	Metabiota	PM	The Program Manager (PM) will lead proposal development of the response to the TO.	8	(b)(4); (b)(6)	
	Metabiota	SME1	The Project Coordinator (PC) will participate in the development of the response to the TO.	20		
TBD	Metabiota/SubIC	Visiting Scientist	The Visiting Scientist (VS) will play no role in proposal development	0		
Project Coordination						
(b)(6)	Metabiota	PM	The PM will lead coordination of the VS, contract development, onboarding, and provide oversight of all project goals	122		
	Metabiota	SME1	The PC will participate in identification of the VS and contract development and onboarding, and coordinate with the VS and all relevant stakeholders to include participating in both regular project communications and communications specifically with the VS	180		
TBD	Metabiota/SubIC	Visiting Scientist	The VS will participate in onboarding and travel to the work location, and coordination with the PM/PC and all relevant stakeholders leading up to project work	82		
Mentoring						
(b)(6)	Metabiota	PM	The PM's role in mentoring is captured in the Project Coordination phase	0.0		
	Metabiota	SME1	The PC's role in mentoring is captured in the Project Coordination phase	0.0		
TBD	Metabiota/SubIC	Visiting Scientist	The VS will be a resident mentor to Georgian scientists at the Lugar Center in Tbilisi	1062.0		

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	Apple MacBook laptop	$ 2,200.00	1	$ 2,200.00
1003	Microsoft Office suite	$ 150.00	1	$ 150.00
1003	Genomics/bioinformatics software (unknown; estimate)	$ 2,000.00	1	$ 2,000.00
				$ -
				$ -
				$ -
			Sub-Total	$ 4,350.00
			SM (b)(4); Fully Loaded Amnt.	$ (b)(4); (b)(6)
				$

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA nsurance	$ 10,859.02	1	$ 10,859.02
1004				$ -
1004				$ -
1004				$ -
1004				$ -
			Sub-Total	$ 10,859.02
			(b)(4); (b)(6)	$ (b)(4); (b)(6)
			Fully Loaded Amnt:	

Traveler:	VS TBD	
Departure Location:	Washington, DC	
Destination:	Tbilisi, Georgia	
Purpose:	Genomics VS/SM	
Airfare	$	1,500.00
Lodging	$	1,652.00
Meals/Incidentals	$	735.00
Ground Transport/US	$	300.00
Ground Transport/Tbilisi	$	30.00
Visa	$	-
# of Days		7
Total Per Trip	**$**	**4,217.00**
No. of trips		1
No. of persons		1
SUBTOTAL:	**$**	**4,217.00**
TOTAL TRAVEL BUDGET:		**$4,217**

USG Foreign Per Diem Rates (https://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCo			
Location	**Maximum Lodging**	**M&IE**	**Total**
Tblisi, Georgia	**236**	**105**	**341**

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$711,773
1003	MATERIALS	$26,260
1004	ODCs	$4,535
1005	TRAVEL	$4,595
TOTAL		**$747,163**

CLIN No.	Labor Category	Old Rate	Total Hours	Total Billable Amount $	New Rate (as of 5/17/16)	Total Hours	Total Billable Amount $	Total Combined Hours	Combined Labor Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	188.5	(b)(4); (b)(6)	(b)(4); (b)(6)	656.5	(b)(4); (b)(6)	845	(b)(4); (b)(6)
CLIN 1002	SME1		445			1,674		2119	
CLIN 1002	SME2		353			1,096		1449	
CLIN 1002	FLN 3		0			540		540	
CLIN 1002	Research and Data Analyst		78	(b)(4); (b)(6)		828		906	
						TOTAL			

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	Old Billable Rate	New Billable Rate (as of 5/17/16)	TOTAL BUDGET
1. Proposal Development							(b)(4); (b)(6)
Program Manage		PM	PM	16.0	$		
Project Coordinat		SME1	SME1	12.0	$		
Subject Matter Ex		SME2	SME2	16.0	$		
2. General Project							
In Country Imple		FLN3	FLN3	155.0	$		
In-Country Implen		RDA	RDA	150.0	$		
In-Country Imple		SME1	SME1	140.0	$		
Program Manage		PM	PM	450.0	$		
Project Coordinator (Varanay)		SME1	SME1	400.0	$		
3. Training Material Dev/Adapt							
Epidemiology and BS&S research analysts		RDA	RDA	300.0	$		
Epidemiology and BS&S Subject Matter Experts		SME1	SME1	200.0	$		
Epidemiology and BS&S Subject Matter Experts		SME2	SME2	250.0	$		
4. Training Mate							
Program Manag		PM	PM	0.0	$		
Project Coordina		SME1	SME1	0.0	$		
5. LMS Implementation							
In-Country Implementers		FLN3	FLN3	100.0	$		
In-Country Implementers		RDA	RDA	75.0	$		
In-Country Implementers		SME1	SME1	75.0	$		
Project Coordinator		SME1	SME1	40.0	$		
6. Remote delivery of Epi							
Epidemiology research analysts		RDA	RDA	20.0	$		
Epidemiology Subject Matter Expe		SME1	SME1	250.0	$		
Epidemiology Subject Matter Expe		SME2	SME2	250.0	$		
7. Remote delivery of BS&S course							
BS&S research analys		RDA	RDA	20.0	$		
BS&S Subject Matter		SME1	SME1	200.0	$		
BS&S Subject Matter		SME2	SME2	229.0	$		
8. Hands on course							
In-Country Implementers		FLN3	FLN3	100.0	$		
In-Country Implementers		RDA	RDA	75.0	$		
In-Country Implementers		SME1	SME1	75.0	$		
Epidemiology and BS&S research analysts		RDA	RDA	100.0	$		
Epidemiology and BS&S Subject Matter E		SME1	SME1	100.0	$		
Epidemiology and BS&S Subject Matter E		SME2	SME2	100.0	$		
9. NBEP Gap Analysis Presentation							
Program Manag		PM	PM	150	$		
Project Coordina		SME1	SME1	72	$		
In-Country Implementers (TBD)		FLN3	FLN3	0	$		
Epidemiology and BS&S research analysts		RDA	RDA	75	$		
Epidemiology and BS&S Subject Matter		SME1	SME1	100.0	$		
Epidemiology and BS&S Subject Matter		SME2	SME2	200.0	$		
10. Remote delivery of Epi course - second cohort							
Epidemiology research analysts		RDA	RDA	20.0	$		
Epidemiology Subject Matter Ex		SME1	SME1	200.0	$		
Epidemiology Subject Matter E		SME2	SME2	250.0	$		
11. Epi course 2 coordinatio							
In-Country Implementers		FLN3	FLN3	175.0	$		
In-Country Implementers		RDA	RDA	71.0	$		
In-Country Implementers		SME1	SME1	75.0	$		
Program Manage		PM	PM	150.0	$		
Project Coordina		SME1	SME1	75.0	$		
12. Project close							
Program Manage		PM	PM	79.0	$		
Project Coordina		SME1	SME1	40.0	$		
Epidemiology and BS&S research analysts		RDA	SME2	55.0	$		
Epidemiology and BS&S Subject Matter Ex		SME1	SME1	55.0	$		
Epidemiology and BS&S Subject Matter Ex		SME2	SME2	89.0	$		

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	epidemiology textbooks	$ 250	30	$ 7,500
1003	risk management texts and other published	$ 550	15	$ 8,250
1003	USB internet devices	$ 34	20	$ 672
1003	Prepaid internet access cards (6GB of data over 3 months)	$ 46	20	$ 924
1003	general office supplies	$ 100	1	$ 100
1003	PPE (Tyvek suits, gloves, goggles, disinfectants, N95 respirators, booties, e	$ 500	15	$ 7,500
			Sub-Total	24,946
			SM Fully Loaded Amnt:	(b)(4); (b)(6)

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance	$ 3,472.89	1	3,473
1004				-
1004				-
1004				-
1004				-
			Sub-Total	3,473
			(b)(4); (b)(6) Fully Loaded Amnt:	(b)(4); (b)(6)

PROJECTED TRAVEL COSTS - TRAVE

	Domestic		
Traveler:	2 people: (b)(6)		
Travel Dates:	September 7 - September 9, 2016		
Training Event Dates:	07/07/16 - 07/09/16 - Present gap analysis report and Q&A at National Biorisk Management Committee (NBMC)		
Departure Location:	DCA		
Destination:	ABQ		
Purpose:	Travel to Albuquerque, NM for report presentation		
Airfare	$		395.50
Service Fee/Airfare	$		43.00
Lodging (2 nights)	$		178.00
Meals / Incidentals (2 travel and 1 full day)	$		127.50
Ground Transport/ to/from DCA airport	$		200.00
Ground Transport to/ from ABQ airport	$		200.00
Daily transportation	$		25.00
# of Full Days		3	
Total Per Person Per Trip	***$***		***1,169.00***
No. of trips		1	
No. of persons		2	
SUBTOTAL:	**$**		**2,338.00**
TOTAL TRAVEL BUDGET:	**$**		**2,338.00**

USG Per Diem Rates		
Location	**Maximum Lodging**	**M&IE**
Albuquerque, NM	**$89.00**	**$51.00**

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$112,883
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$112,883.29**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	88	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist			$0.00
CLIN 1002	Scientific Mentor			$0.00
CLIN 1002	SME1			$0.00
CLIN 1002	SME2		229	(b)(4); (b)(6)
CLIN 1002	SME3			$0.00
CLIN 1002	Resaerch Collaborator			$0.00
CLIN 1002	Trainer 1		300	(b)(4); (b)(6)
CLIN 1002	Trainer 2			$0.00
CLIN 1002	Trainer 3			$0.00
CLIN 1002	Grants Manager			$0.00
CLIN 1002	Research and Data Analyst		308	(b)(4); (b)(6)
			TOTAL	

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET
[redacted]						
(b)(6)	FT	PM	Program Manager	8.0	$	(b)(4); (b)(6)
	FT	SME II	Subject Matter Expert	4.0	$	
	FT	RDA	Program Coordinator	8.0	$	
[redacted]						
	FT	PM	Program Manager	80.0	$	
	FT	RDA	Program Coordinator	100.0	$	
[redacted]						
	FT	SME II	Subject Matter Expert	125.0	$	
	FT	RDA	Research and Data Analyst	100.0	$	
SME TBD	IC	Trainer I	Subject Matter Expert	125.0	$	
[redacted]						
(b)(6)	FT	SME II	Subject Matter Expert	100.0	$	
	FT	RDA	Research and Data Analyst	100.0	$	
SME TBD	IC	Trainer I	Subject Matter Expert	175.0	$	
Summary						
(b)(6)	FT	PM	Program Manager	88.0	$	
	FT	RDA	Program Coordinator	108.0	$	
	FT	RDA	Research and Data Analyst	200.0	$	
	FT	SME II	Subject Matter Expert	229.0	$	
SME TBD	IC	Trainer I	Subject Matter Expert	300.0	$	
Totals				**925.00**		

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	N/A	$0.00	0	$ -
			Sub-Total	-
			(b)(4); (b)(6)	-
			Fully Loaded Amnt:	-

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	N/A	$ -	-	-
			Sub-Total	-
			(b)(4); (b)(6)	-
			Fully Loaded Amnt.	-

TRAVEL ESTIMATE COST

Contract Name: **STEP**
Contract Number:
Date Prepared: 15-Mar-16
Proposal: Biosafety/Biosecurity Practices Training & Laboratory Differential Diagnosis
eriod of Performance: 21-Mar-16 through 15-May-16

GRAND TOTAL
$0.00

USG Foreign Per Diem Rates			
Location	**Maximum Lodging**	**M&IE**	**Total**
Pretoria, South Africa			

Assumptions:

1. Travel will not be required to execute this techincal direction.

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$112,883
1003	MATERIALS	$0
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$112,883.29**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	88	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist			$0.00
CLIN 1002	Scientific Mentor			$0.00
CLIN 1002	SME1			$0.00
CLIN 1002	SME2		229	(b)(4); (b)(6)
CLIN 1002	SME3			$0.00
CLIN 1002	Resaerch Collaborator			$0.00
CLIN 1002	Trainer 1		300	(b)(4); (b)(6)
CLIN 1002	Trainer 2			$0.00
CLIN 1002	Trainer 3			$0.00
CLIN 1002	Grants Manager			$0.00
CLIN 1002	Research and Data Analyst		308	(b)(4); (b)(6)
			TOTAL	

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET
(b)(6)						(b)(4); (b)(6)
	FT	PM	Program Manager	8.0	$	
	FT	SME II	Subject Matter Expert	4.0	$	
	FT	RDA	Program Coordinator	8.0	$	
	FT	PM	Program Manager	80.0	$	
	FT	RDA	Program Coordinator	100.0	$	
	FT	SME II	Subject Matter Expert	125.0	$	
	FT	RDA	Research and Data Analyst	100.0	$	
	IC	Trainer I	Subject Matter Expert	125.0	$	
	FT	SME II	Subject Matter Expert	100.0	$	
	FT	RDA	Research and Data Analyst	100.0	$	
	IC	Trainer I	Subject Matter Expert	175.0	$	
Summary						
(b)(6)	FT	PM	Program Manager	88.0	$	
	FT	RDA	Program Coordinator	108.0	$	
	FT	RDA	Research and Data Analyst	200.0	$	
	FT	SME II	Subject Matter Expert	229.0	$	
	IC	Trainer I	Subject Matter Expert	300.0	$	
Totals				**925.00**		

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	N/A	$0.00	0	$ -
			Sub-Total	-
			(b)(4); (b)(6)	-
			Fully Loaded Amnt:	-

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	N/A	$ -	-	-
			Sub-Total	-
			(b)(4); (b)(6)	-
			Fully Loaded Amnt.	-

TRAVEL ESTIMATE COST

Contract Name: **STEP**
Contract Number:
Date Prepared: 15-Mar-16
Proposal: Biosafety/Biosecurity Practices Training & Laboratory Differential Diagnosis
eriod of Performance: 21-Mar-16 through 15-May-16

GRAND TOTAL
$0.00

USG Foreign Per Diem Rates			
Location	**Maximum Lodging**	**M&IE**	**Total**
Pretoria, South Africa			

Assumptions:

1. Travel will not be required to execute this techincal direction.

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$71,092.60
1003	MATERIALS	$1,579.05
1004	ODCs	$647.16
1005	TRAVEL	$13,639.00
TOTAL		**$86,957.81**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	98.0	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist		-	$0.00
CLIN 1002	Scientific Mentor		-	$0.00
CLIN 1002	SME1		384.0	(b)(4); (b)(6)
CLIN 1002	SME2		-	$0.00
CLIN 1002	SME3		-	$0.00
CLIN 1002	Resaerch Collaborator		-	$0.00
CLIN 1002	Trainer 1		-	$0.00
CLIN 1002	Trainer 2		-	$0.00
CLIN 1002	Trainer 3		-	$0.00
CLIN 1002	Grants Manager		-	$0.00
CLIN 1002	Research and Data Analyst	$76.96	116.0	(b)(4); (b)(6)
			TOTAL	

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET
[redacted]						
(b)(6)	PM	Program Manager	Program Manager	8.0	$	(b)(4); (b)(6)
	RDA	Research and Data Analyst	Program Coordinator	8.0	$	
[redacted]						
	PM	Program Manager	Program Manager	22.0	$	
	RDA	Research and Data Analyst	Program Coordinator	44.0	$	
	SME1	Subject Matter Expert 1	Grantsmanship SME 1	46.0	$	
	SME1	Subject Matter Expert 1	Grantsmanship SME 2	46.0	$	
[redacted]						
	PM	Program Manager	Program Manager	20.0	$	
	RDA	Research and Data Analyst	Program Coordinator	4.0	$	
	SME1	Subject Matter Expert 1	Grantsmanship SME 1	56.0	$	
	SME1	Subject Matter Expert 1	Grantsmanship SME 2	56.0	$	
[redacted]						
	PM	Program Manager	Program Manager	36.0	$	
	RDA	Research and Data Analyst	Program Coordinator	48.0	$	
	SME1	Subject Matter Expert 1	Grantsmanship SME 1	70.0	$	
SME1 TBD	SME1	Subject Matter Expert 1	Grantsmanship SME 2	70.0	$	
(b)(6)						
	PM	Program Manager	Program Manager	12.0	$	
	RDA	Research and Data Analyst	Program Coordinator	12.0	$	
SME1 TBD	SME1	Subject Matter Expert 1	Grantsmanship SME 1	20.0	$	
SME1 TBD	SME1	Subject Matter Expert 1	Grantsmanship SME 2	20.0	$	
(b)(6)						
	PM	Program Manager	Program Manager	98.0	$	
	RDA	Research and Data Analyst	Program Coordinator	116.0	$	
SME1 TBD	SME1	Subject Matter Expert 1	Grantsmanship SME 1	192.0	$	
SME1 TBD	SME1	Subject Matter Expert 1	Grantsmanship SME 2	192.0	$	
Totals:				**598.0**		

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	Scientific Articles for Research Support	$1,300.00	1	$ 1,300.00
1003	In Country Communications Support for Project SMEs	$200.00	1	$ 200.00
				$ -
				$ -
				$ -
				$ -
			Sub-Total	1,500
			(b)(4); (b)(6) Fully Loaded Amnt:	(b)(4); (b)(6)

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance	$ 495.61	1	495.61
			Sub-Total	495.61
			(b)(4); (b)(6) Fully Loaded Amnt.	

(b)(4); (b)(6)

PROJECTED TRAVEL COSTS - TD-025

	Foreign
Traveler:	2 SMEs
Travel Dates:	Depart IAD 7/29/2016, arrive to ADD on Sat; depart ADD 8/6/2016; arrive IAD Sun 8/7/2016.
Training Event Dates:	08/01/2016-08/05/2016
Departure Location:	Washington, DC, USA
Destination:	Addis Ababa, Ethiopia
Purpose:	Travel to Addis Ababa to execute Writing WS and post-WS survey

Airfare	$	2,200.00
Service Fee/Airfare	$	43.00
Lodging (7 nights)	$	2,205.00
Meals / Incidentals (2 travel and 8 full days)	$	807.50
Ground Transport/ from US airport	$	300.00
Ground Transport / to ADD airport	$	10.00
Daily Iransport / 8 days x 1 car	$	720.00
Other - fuel (app 10Gallons)	$	50.00
Vaccinations/Malarone	$	250.00
Other - roaming activation	$	120.00
Visa (Regular processing/single entry for 30d in-country)	$	114.00
# of Full Days	8	
Total Per Person Per Trip	***$***	***6,819.50***
No. of trips	1	
No. of persons	2	
SUBTOTAL:	**$**	**13,639.00**

USG Foreign Per Diem Rates (See References Tab for Details)			
Location	**Maximum Lodging**	**M&IE**	**Total**
Addis Ababa	**$315.00**	**$85.00**	**$400.00**
Other	**$96.00**	**$61.00**	**$157.00**

Comments:	
	Assumption #1: Listed Travelers wil share one vehicle throughout workshop implementation
	Assumption #2: Workshop implementation will take place with Addis Ababa and estimates are based on USG rates for Addis Ababa
	Assumption #4: Car hire is provided without fuel; fuel to be procured on the ground by MB team
	Assumption #5: Assumed that team will require approximately 40 liters of fuel during workshop implementation.

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$361,460
1003	MATERIALS	$2,474
1004	ODCs	$14,180
1005	TRAVEL	$4,217
TOTAL		**$382,330.30**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	130	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist		1,104	
CLIN 1002	Scientific Mentor		-	$0.00
CLIN 1002	SME1		201	(b)(4); (b)(6)
CLIN 1002	SME2		-	$0.00
CLIN 1002	SME3		-	$0.00
CLIN 1002	Research Collaborator		-	$0.00
CLIN 1002	Trainer 1		-	$0.00
CLIN 1002	Trainer 2		-	$0.00
CLIN 1002	Trainer 3		-	$0.00
CLIN 1002	Grants Manager		-	$0.00
CLIN 1002	Research and Data Analyst		-	$0.00
			TOTAL	(b)(4); (b)(6)

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET
(b)(6)	Metabiota	PM	The Program Manager (PM) will lead proposal development of the response to the TO.	8	$	(b)(4); (b)(6)
	Metabiota	SME1	The Project Coordinator (PC) will participate in the development of the response to the TO	20	$	
TBD	Metabiota/Subvlc	Visiting Scientist	The Visiting Scientist (VS) will play no role in proposal development	0	$	
Project Coordination						
(b)(6)	Metabiota	PM	The PM will lead identification of the VS, contract development, onboarding, and provide oversight of all project work.	122	$	
	Metabiota	SME1	The PC will participate in identification of the VS and contract development and onboarding, and coordinate with the VS and all relevant stakeholders to include participating in both regular project communications and communications specifically with the VS	161	$	
TBD	Metabiota/Subvlc	Visiting Scientist	The VS will participate in onboarding and travel to the work location, and coordination with the PM/PC and all relevant stakeholders leading up to project work	42	$	
Mentoring						
(b)(6)	Metabiota	PM	The PM's role in mentoring is captured in the Project Coordination phase	0.0	$	
	Metabiota	SME1	The PC's role in mentoring is captured in the Project Coordination phase	0.0	$	
	Metabiota/Subvlc	Visiting Scientist	The VS will be a resident mentor to Georgian scientists at the Lugar Center in Tbilisi	1062.0	$	

CLIN No.	Item	Cost	Number of Req.	Total Billab e Amount $
1003	Apple MacBook laptop	$ 2,200.00	1	$ 2,200.00
1003	Microsoft Office suite	$ 150.00	1	$ 150.00
1003				$ -
				$ -
				$ -
				$ -
			Sub-Total	$ 2,350.00
			(b)(4); (b)(6)	$ (b)(4); (b)(6)
			Fully Loaded Amnt:	$

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance	$ 10,859.02	1	$ 10,859.02
1004				$ -
1004				$ -
1004				$ -
1004				$ -
			Sub-Total	$ 10,859.02

(b)(4); (b)(6)

Fully Loaded Amnt:	(b)(4); (b)(6)

Traveler:	VS TBD	
Departure Location:	Washington, DC	
Destination:	Tbilisi, Georgia	
Purpose:	Genomics VS/SM	
Airfare	$	1,500.00
Lodging	$	1,652.00
Meals/Incidentals	$	735.00
Ground Transport/US	$	300.00
Ground Transport/Tbilisi	$	30.00
Visa	$	-
# of Days		7
Total Per Trip	**$**	**4,217.00**
No. of trips		1
No. of persons		1
SUBTOTAL:	**$**	**4,217.00**
TOTAL TRAVEL BUDGET:		**$4,217**

USG Foreign Per Diem Rates (https://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1088)

Location	Maximum Lodging	M&IE	Total
Tbilisi, Georgia	236	105	341

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$32,154
1003	MATERIALS	$0
1004	ODCs	$1,030
1005	TRAVEL	$8,640
TOTAL		**$41,823.44**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	35	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist		-	$0.00
CLIN 1002	Scientific Mentor		-	$0.00
CLIN 1002	SME1		-	$0.00
CLIN 1002	SME2		-	$0.00
CLIN 1002	SME3		100	(b)(4); (b)(6)
CLIN 1002	Resaerch Collaborator		-	
CLIN 1002	Trainer 1		-	$0.00
CLIN 1002	Trainer 2		-	$0.00
CLIN 1002	Trainer 3		-	$0.00
CLIN 1002	Grants Manager		-	$0.00
CLIN 1002	Research and Data Analyst		26	(b)(4); (b)(6)
			OTAL	

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET
[redacted]						
(b)(6)	Metabiota	PM	Program Manager	16.0	$	(b)(4); (b)(6)
Project Coordination / SME support prior to trip						
(b)(6)	Metabiota	PM	Program Manager	6.0	$	
Project Coordinator	Metabiota	RDA	Project Coordinator	10.0	$	
(b)(6)	Metabiota	SME 3	Subject matter expert	14.0	$	
In Country SME support						
(b)(6)	Metabiota	SME 3	Subject matter expert	66.0	$	
SME support after trip / Closeout						
(b)(6)	Metabiota	PM	Program Manager	13.0	$	
	Metabiota	RDA	Project Coordinator	16.0	$	
	Metabiota	SME 3	Subject matter expert	20.0	$	

CLIN No.	Item	Cost	Number of Req.	Total Billab e Amount $
‘003				$ -
‘003				$ -
				$ -
				$ -
				$ -
				$ -
			Sub-Total	-
			(b)(4); (b)(6)	-
			Fully Loaded Amnt:	-

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance	$ 788.47	1	788
1004				-
1004				-
1004				-
1004				-
			Sub-Total	788
			Fully Loaded Amnt:	(b)(4); (b)(6)

(b)(4); (b)(6)

	International
Traveler:	SMEs TBD
Departure Location:	Washington DC
Destination:	Libreville, Gabon
Purpose:	SME support
Airfare	$ 1,500.00
Lodging	$ 1,675.00
Meals / Incidentals	$ 845.00
Ground Transport US	$ 300.00
Ground Transport	$ -
Daily Ground Transport	$ -
# of Days	7
Total Per Trip	**$4,320**
No. of trips	1
No. of persons	2
SUBTOTAL:	**$8,640**
TOTAL TRAVEL BUDGET:	**$8,640**

USG Foreign Per Diem Rates

Location	Maximum Lodging	M&IE	Total
Libreville, Gabon	**335**	**130**	**465**

Assumption#1:	Cheapest airfare currently (12/8/2015) from IAD and SFO is ~$1100; high is well over $5000, we have made an allowance for fluctuations.
Assumption#2:	Ground transport in Gabon will be handled by DTRA & CLS given the purpose of this trip is to support DTRA in meetings.

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$27,096
1003	MATERIALS	$0
1004	ODCs	$539
1005	TRAVEL	$4,320
TOTAL		**$31,955.14**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	35	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist		-	$0.00
CLIN 1002	Scientific Mentor		-	$0.00
CLIN 1002	SME1		-	$0.00
CLIN 1002	SME2		-	$0.00
CLIN 1002	SME3		80	(b)(4); (b)(6)
CLIN 1002	Resaerch Collaborator		-	$0.00
CLIN 1002	Trainer 1		-	$0.00
CLIN 1002	Trainer 2		-	$0.00
CLIN 1002	Trainer 3		-	$0.00
CLIN 1002	Grants Manager		-	$0.00
CLIN 1002	Research and Data Analyst		26	(b)(4); (b)(6)
			TOTAL	

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET
(b)(6)	Metabiota	PM	Program Manager	16.0	$	(b)(4); (b)(6)
Project Coordination / SME support prior to trip						
(b)(6)	Metabiota	PM	Program Manager	6.0	$	
Project Coordinator (TBD)	Metabiota	RDA	Project Coordinator	10.0	$	
(b)(6)	Metabiota	SME 3	Subject matter expert	14.0	$	
In Country SME Support						
(b)(6)	Metabiota	SME 3	Subject matter expert	46.0	$	
SME support after trip / Closeout						
(b)(6)	Metabiota	PM	Program Manager	13.0	$	
Project Coordinator (TBD)	Metabiota	RDA	Project Coordinator	16.0	$	
(b)(6)	Metabiota	SME 3	Subject matter expert	20.0	$	

CLIN No.	Item	Cost	Number of Req.	Total Billab e Amount $
‘003				$ -
‘003				$ -
				$ -
				$ -
				$ -
				$ -
			Sub-Total	-
			(b)(4); (b)(6)	-
			Fully Loaded Amnt:	-

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance	$ 412.99	1	413
1004				-
1004				-
1004				-
1004				-
			Sub-Total	413

(b)(4); (b)(6)	(b)(4); (b)(6)
Fully Loaded Amnt:	

	International
Traveler:	SMEs TBD
Departure Location:	Washington DC
Destination:	Libreville, Gabon
Purpose:	SME support
Airfare	$ 1,500.00
Lodging	$ 1,675.00
Meals / Incidentals	$ 845.00
Ground Transport US	$ 300.00
Ground Transport	$ -
Daily Ground Transport	$ -
# of Days	7
Total Per Trip	**$4,320**
No. of trips	1
No. of persons	1
SUBTOTAL:	**$4,320**
TOTAL TRAVEL BUDGET:	**$4,320**

USG Foreign Per Diem Rates

Location	Maximum Lodging	M&IE	Total
Libreville, Gabon	**335**	**130**	**465**

Assumption#1:	Cheapest airfare currently (12/8/2015) from IAD and SFO is ~$1100; high is well over $5000, we have made an allowance for fluctuations.
Assumption#2:	Ground transport in Gabon will be handled by DTRA & CLS given the purpose of this trip is to support DTRA in meetings.

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$111,755
1003	MATERIALS	$105,270
1004	ODCs	$3,680
1005	TRAVEL	$32,931
TOTAL		**$253,635.27**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	167.0	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist		0.0	$0.00
CLIN 1002	Scientific Mentor		0.0	$0.00
CLIN 1002	SME1		272.0	(b)(4); (b)(6)
CLIN 1002	SME2		0.0	$0.00
CLIN 1002	SME3		0.0	$0.00
CLIN 1002	Resaerch Collaborator		0.0	$0.00
CLIN 1002	Trainer 1		0.0	$0.00
CLIN 1002	Trainer 2		0.0	$0.00
CLIN 1002	Trainer 3		0.0	$0.00
CLIN 1002	Grants Manager		0.0	$0.00
CLIN 1002	Research and Data Analyst		369.0	(b)(4); (b)(6)
CLIN 1002	AFRICOM FLN-1		1158.5	
			TOTAL	

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BR_ABLE RATE	TOTAL BUDGET	
[redacted]posal Development							
[redacted]	FT	PM	Program Manager	10.0	$	[redacted]	
[redacted]	FT	RDA	Program Coordinator	10.0	$		
[redacted] Work Plan Development							
[redacted]	FT	PM	Program Manager	25.0	$		
[redacted]	FT	RDA	Program Manager	41.0	$		
[redacted] Detailed Research Proposal							
[redacted]	FT	PM	Program Manager	12.0	$		
[redacted]	FT	RDA	Program Coordinator	32.5	$		
[redacted] (Africa Biomedical Laboratories - A	IC	SME I	Subject Matter Expert	60.0	$		
[redacted] BL)	IC	SME I	Subject Matter Expert	60.0	$		
TBD	IC	RDA	Ugandan SME	60.0	$		
Phase 3 part 1: In -country Training Preparation							
[redacted]	FT	PM	Program Manager	24.0	$		4 hours/week
[redacted]	FT	RDA	Program Coordinator	48.0	$		8 hours/week
[redacted] ABL)	IC	SME I	SME Coordinator	32.0	$		
TBD	IC	AFRICOM FLN I	In Country Trainer	25.0	$		
TBD	IC	AFRICOM FLN I	In Country Trainer	25.0	$		
TBD	IC	AFRICOM FLN I	In Country Trainer	25.0	$		
TBD	IC	AFRICOM FLN I	In Country Trainer	25.0	$		
TBD	IC	AFRICOM FLN I	In Country Trainer	25.0	$		
Phase 3 Part 2: In-country Training [redacted]mentation							
[redacted]	FT	PM	Program Manager	80.0	$		
[redacted]	IC	SME I	SME Coordinator	100.0	$		
TBD	IC	AFRICOM FLN I	In Country Trainer	100.0	$		
TBD	IC	AFRICOM FLN I	In Country Trainer	100.0	$		
TBD	IC	AFRICOM FLN I	In Country Trainer	100.0	$		
TBD	IC	AFRICOM FLN I	In Country Trainer	100.0	$		
TBD	IC	AFRICOM FLN I	In Country Trainer	100.0	$		
Phase 3 Part 3: Pilot Field Studies [redacted] Implementation							
[redacted]	FT	PM	Program Manager	16.0	$		2 hours/week
[redacted]	FT	RDA	Program Coordinator	32.0	$		4 hours/week
[redacted] (ABL)	IC	SME I	SME Coordinator	20.0	$		
TBD	IC	RDA	Study Lead	48.5	$		
TBD	IC	RDA	Study Lead	48.5	$		
TBD	IC	RDA	Study Lead	48.5	$		
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$		
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$		
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$		
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$		
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$		
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$		
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$		
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$		
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$		
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$		
[redacted]							
[redacted]	FT	PM	Program Manager	167.0	$		
[redacted]	IC	SME I	SME Coordinator	272.0	$		
[redacted]	FT	RDA	Program Coordinator	163.5	$		
TBD	IC	RDA	Ugandan SME	60.0	$		
TBD	IC	AFRICOM FLN I	In Country Trainer	125.0	$		
TBD	IC	AFRICOM FLN I	In Country Trainer	125.0	$		
TBD	IC	AFRICOM FLN I	In Country Trainer	125.0	$		
TBD	IC	AFRICOM FLN I	In Country Trainer	125.0	$		
TBD	IC	AFRICOM FLN I	In Country Trainer	125.0	$		
TBD	IC	RDA	Study Lead	48.5	$		
TBD	IC	RDA	Study Lead	48.5	$		
TBD	IC	RDA	Study Lead	48.5	$		
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$		
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$		
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$		
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$		
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$		
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$		
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$		
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$		
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$		
				1966.5			

[redacted]

CLIN No.	Item	Cost	Number of Req.	Total Billab e Amount $
003	Materials	$100,000.00	1	$ 100,000.00
003			1	$ -
003				$ -
003				$ -
003				$ -
				$ -
			Sub-Total	100,000

(b)(4); (b)(6)

Fully Loaded Amnt:	(b)(4); (b)(6)

CLIN No.	Item	(b)(4); (b)(6)	Hours Abroad	Total Billable Amount $
1004	PM Hours in Uganda	$ 4.86	80.0	$ 389.03
1004	RDA Hours in Uganda	$ 2.69	205.5	$ 553.53
1004	AFRICOM FLN - 1 Hours in Uganda	$ 0.78	1,158.5	$ 901.78
1004	SME I Hours in Uganda/Kenya	$ 4.43	220.0	$ 973.51
1004				-
			Sub-Total	2,818
		(b)(4); (b)(6)	Fully Loaded Amnt:	(b)(4); (b)(6)

Traveler:	PM
Departure Location:	Washington, DC
Destination:	Kampala Uganda
Purpose.	Implement Training Activities
Airfare	$ 1,800.00
Service Fee/Airfare	$ 43.00
Lodging/ 1 night Entebbe	$ 144.00
Lodging / 14 nights @ Kampala	$ 3,250.00
Meals / Incidentals (2 travel days @ 75%)	$ 87.00
Meals / Incidentals (1 travel days @ 75%)	$ 67.50
Meals / Incidentals (14 days @ 100%)	$ 1,260.00
Ground Transport/US	$ 120.00
Ground Transport/Uganda	$ 500.00
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ 150.00
Other (comm costs, Internet etc)	$ -
Visa	$ 150.00
# of Days	16
Total Per Trip	**$ 7,571.50**
No. of trips	1
No. of persons	1
SUBTOTAL:	**$ 7,571.50**
TOTAL TRAVEL BUDGET:	**$32,930.50**

Traveler:	SME 1
Departure Location:	Nairobi, Kenya
Destination:	Kampala, Uganda
Purpose.	Implement Training Activities
Airfare	$ 350.00
Service Fee/Airfare	$ 43.00
Lodging/ 1 night Entebbe	$ -
Lodging / 14 nights @ Kampala	$ 3,250.00
Meals / Incidentals (1 travel days @ 75%)	$ 43.50
Meals / Incidentals (1 travel days @ 75%)	$ 67.50
Meals / Incidentals (14 days @ 100%)	$ 1,260.00
Ground Transport/Kenya	$ 120.00
Ground Transport/Uganda	
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ 150.00
Other (comm costs, Internet etc)	$ -
Visa	$ 150.00
# of Days	15
Total Per Trip	**$ 5,434.00**
No. of trips	1
No. of persons	1
SUBTOTAL:	**$ 5,434.00**

Traveler:	Trainers (FLNs)
Departure Location:	Unknown, Uganda
Destination:	Kampala, Uganda
Purpose.	Conduct Training Activities
Airfare	$ -
Service Fee/Airfare	$ -
Lodging / 11 nights @ Kampala	$ 2,750.00
Meals / Incidentals (1 travel days @ 75%)	$ 67.50
Meals / Incidentals (1 travel days @ 75%)	$ 67.50
Meals / Incidentals (10 days @ 100%)	$ 900.00
Ground Transport/Uganda	$ 200.00
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ -
Visa	$ -
# of Days	12
Total Per Trip	**$ 3,985.00**
No. of trips	1
No. of persons	5
SUBTOTAL:	**$ 19,925.00**

USG Foreign Per Diem Rates			
Location	**Maximum Lodging**	**M&IE**	**Total**
Kampala, Uganda	**250**	**90**	**340**
Location	**Maximum Lodging**	**M&IE**	**Total**
Entebbe, Uganda	**144**	**58**	**202**

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$111,755
1003	MATERIALS	$105,270
1004	ODCs	$3,680
1005	TRAVEL	$32,931
TOTAL		**$253,635.27**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	167.0	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist		0.0	$0.00
CLIN 1002	Scientific Mentor		0.0	$0.00
CLIN 1002	SME1		272.0	(b)(4); (b)(6)
CLIN 1002	SME2		0.0	$0.00
CLIN 1002	SME3		0.0	$0.00
CLIN 1002	Resaerch Collaborator		0.0	$0.00
CLIN 1002	Trainer 1		0.0	$0.00
CLIN 1002	Trainer 2		0.0	$0.00
CLIN 1002	Trainer 3		0.0	$0.00
CLIN 1002	Grants Manager		0.0	$0.00
CLIN 1002	Research and Data Analyst		369.0	(b)(4); (b)(6)
CLIN 1002	AFRICOM FLN-1		1158.5	
			TOTAL	

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	HR LABLE RATE	TOTAL BUDGET
Proposal Development						
(b)(6)	FT	PM	Program Manager	10.0	$	(b)(4); (b)(6)
	FT	RDA	Program Coordinator	10.0	$	
Phase 2: Work Plan Development						
(b)(6)	FT	PM	Program Manager	25.0	$	
	FT	RDA	Program Manager	41.0	$	
Phase 2: Detailed Research Proposal						
(b)(6)	FT	PM	Program Manager	12.0	$	
	FT	RDA	Program Coordinator	32.5	$	
Biomedical Laboratories - A	IC	SME I	Subject Matter Expert	60.0	$	
	IC	SME I	Subject Matter Expert	60.0	$	
TBD	IC	RDA	Ugandan SME	60.0	$	
Phase 3 part 1: In -country Training Preparation						
(b)(6)	FT	PM	Program Manager	24.0	$	ours/week
	FT	RDA	Program Coordinator	48.0	$	ours/week
)	IC	SME I	SME Coordinator	32.0	$	
	IC	AFRICOM FLN I	In Country Trainer	25.0	$	
TBD	IC	AFRICOM FLN I	In Country Trainer	25.0	$	
TBD	IC	AFRICOM FLN I	In Country Trainer	25.0	$	
TBD	IC	AFRICOM FLN I	In Country Trainer	25.0	$	
TBD	IC	AFRICOM FLN I	In Country Trainer	25.0	$	
Phase 3 Part 2: In-country Training Implementation						
(b)(6)	FT	PM	Program Manager	80.0	$	
	IC	SME I	SME Coordinator	100.0	$	
TBD	IC	AFRICOM FLN I	In Country Trainer	100.0	$	
TBD	IC	AFRICOM FLN I	In Country Trainer	100.0	$	
TBD	IC	AFRICOM FLN I	In Country Trainer	100.0	$	
TBD	IC	AFRICOM FLN I	In Country Trainer	100.0	$	
TBD	IC	AFRICOM FLN I	In Country Trainer	100.0	$	
Phase 3 Part 3: Pilot Field Studies Implementation						
(b)(6)	FT	PM	Program Manager	16.0	$	ours/week
	FT	RDA	Program Coordinator	32.0	$	ours/week
	IC	SME I	SME Coordinator	20.0	$	
TBD	IC	RDA	Study Lead	48.5	$	
TBD	IC	RDA	Study Lead	48.5	$	
TBD	IC	RDA	Study Lead	48.5	$	
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$	
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$	
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$	
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$	
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$	
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$	
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$	
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$	
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$	
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$	
(b)(6)	FT	PM	Program Manager	167.0	$	
	IC	SME I	SME Coordinator	272.0	$	
	FT	RDA	Program Coordinator	163.5	$	
	IC	RDA	Ugandan SME	60.0	$	
TBD	IC	AFRICOM FLN I	In Country Trainer	125.0	$	
TBD	IC	AFRICOM FLN I	In Country Trainer	125.0	$	
TBD	IC	AFRICOM FLN I	In Country Trainer	125.0	$	
TBD	IC	AFRICOM FLN I	In Country Trainer	125.0	$	
TBD	IC	AFRICOM FLN I	In Country Trainer	125.0	$	
TBD	IC	RDA	Study Lead	48.5	$	
TBD	IC	RDA	Study Lead	48.5	$	
TBD	IC	RDA	Study Lead	48.5	$	
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$	
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$	
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$	
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$	
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$	
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$	
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$	
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$	
TBD	IC	AFRICOM FLN I	Study Technician	48.5	$	
				1966.5		

CLIN No.	Item	Cost	Number of Req.	Total Billab e Amount $
1003	Materials	$100,000.00	1	$ 100,000.00
1003			1	$ -
1003				$ -
1003				$ -
1003				$ -
				$ -
			Sub-Total	100,000

SI	(b)(4); (b)(6)
Fully Loaded Amnt:	

(b)(4); (b)(6)

CLIN No.	Item	(b)(4); (b)(6)	Hours Abroad	Total Billable Amount $
1004	PM Hours in Uganda	$ 4.86	80.0	$ 389.03
1004	RDA Hours in Uganda	$ 2.69	205.5	$ 553.53
1004	AFRICOM FLN - 1 Hours in Uganda	$ 0.78	1,158.5	$ 901.78
1004	SME I Hours in Uganda/Kenya	$ 4.43	220.0	$ 973.51
1004				-
			Sub-Total	2,818
			(b)(4); (b)(6)	(b)(4); (b)(6)
			Fully Loaded Amnt:	

Traveler:	PM
Departure Location:	Washington, DC
Destination:	Kampala Uganda
Purpose.	Implement Training Activities
Airfare	$ 1,800.00
Service Fee/Airfare	$ 43.00
Lodging/ 1 night Entebbe	$ 144.00
Lodging / 14 nights @ Kampala	$ 3,250.00
Meals / Incidentals (2 travel days @ 75%)	$ 87.00
Meals / Incidentals (1 travel days @ 75%)	$ 67.50
Meals / Incidentals (14 days @ 100%)	$ 1,260.00
Ground Transport/US	$ 120.00
Ground Transport/Uganda	$ 500.00
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ 150.00
Other (comm costs, Internet etc)	$ -
Visa	$ 150.00
# of Days	16
Total Per Trip	**$ 7,571.50**
No. of trips	1
No. of persons	1
SUBTOTAL:	**$ 7,571.50**
TOTAL TRAVEL BUDGET:	**$32,930.50**

Traveler:	SME 1
Departure Location:	Nairobi, Kenya
Destination:	Kampala, Uganda
Purpose.	Implement Training Activities
Airfare	$ 350.00
Service Fee/Airfare	$ 43.00
Lodging/ 1 night Entebbe	$ -
Lodging / 14 nights @ Kampala	$ 3,250.00
Meals / Incidentals (1 travel days @ 75%)	$ 43.50
Meals / Incidentals (1 travel days @ 75%)	$ 67.50
Meals / Incidentals (14 days @ 100%)	$ 1,260.00
Ground Transport/Kenya	$ 120.00
Ground Transport/Uganda	
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ 150.00
Other (comm costs, Internet etc)	$ -
Visa	$ 150.00
# of Days	15
Total Per Trip	**$ 5,434.00**
No. of trips	1
No. of persons	1
SUBTOTAL:	**$ 5,434.00**

Traveler:	Trainers (FLNs)
Departure Location:	Unknown, Uganda
Destination:	Kampala, Uganda
Purpose.	Conduct Training Activities
Airfare	$ -
Service Fee/Airfare	$ -
Lodging / 11 nights @ Kampala	$ 2,750.00
Meals / Incidentals (1 travel days @ 75%)	$ 67.50
Meals / Incidentals (1 travel days @ 75%)	$ 67.50
Meals / Incidentals (10 days @ 100%)	$ 900.00
Ground Transport/Uganda	$ 200.00
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ -
Visa	$ -
# of Days	12
Total Per Trip	**$ 3,985.00**
No. of trips	1
No. of persons	5
SUBTOTAL:	**$ 19,925.00**

USG Foreign Per Diem Rates			
Location	**Maximum Lodging**	**M&IE**	**Total**
Kampala, Uganda	**250**	**90**	**340**
Location	**Maximum Lodging**	**M&IE**	**Total**
Entebbe, Uganda	**144**	**58**	**202**

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$2,000
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$2,000**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	-	$0.00
CLIN 1002	Visiting Scientist		-	$0.00
CLIN 1002	Scientific Mentor		-	$0.00
CLIN 1002	SME1		-	$0.00
CLIN 1002	SME2		-	$0.00
CLIN 1002	SME3		-	$0.00
CLIN 1002	Resaerch Collaborator		-	$0.00
CLIN 1002	Trainer 1		-	$0.00
CLIN 1002	Trainer 2		-	$0.00
CLIN 1002	Trainer 3		-	$0.00
CLIN 1002	Grants Manager		-	$0.00
CLIN 1002	Research and Data Analyst		-	$0.00
			TOTAL	$0.00

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET	Full Time Employee	IC Support by Activity

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	Voice Over & Narrative	$250.00	4	$ 1,000.00
1003	Closed Captio	$900.00	1	$ 900.00
				$ -
				$ -
				$ -
				$ -
			Sub-Total	1,900

(b)(4); (b)(6)

(b)(4); (b)(6)

Fully Loaded Amnt:

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance			-
1004				-
1004				-
1004				-
1004				-
			Sub-Total	-
			(b)(4); (b)(6)	-
			Fully Loaded Amnt:	-

Traveler:		
Departure Location:		
Destination:		
Purpose:		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 6 full days)	$	-
Ground Transport/US	$	-
Ground Transport/Entebbe-TBD-Entebbe	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

Traveler:		
Departure Location:		
Destination:		
Purpose		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 13 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 12 full days)	$	-
Ground Transport US	$	-
Ground Transport/Entebbe-TBD-Entebbe	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

Traveler:		
Departure Location:		
Destination:		
Purpose:		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 6 full days)	$	-
Ground Transport/US	$	-
Ground Transport/Entebbe-TBD-Entebbe	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

Traveler:		
Departure Location:		
Destination:		
Purpose		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 13 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 12 full days)	$	-
Ground Transport/Freetown	$	-
Ground Transport/Entebbe-TBD-Entebbe (included into TM MB)	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

Traveler:		
Departure Location:		
Destination:		
Purpose:		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 6 full days)	$	-
Ground Transport/Freetown	$	-
Ground Transport/Entebbe-TBD-Entebbe	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

TOTAL TRAVEL BUDGET:	**$0**

USG Foreign Per Diem Rates (http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1239)

Location	Maximum Lodging	M&IE	Total
Wakiso/Hoima	62	48	110

CLIN	DESCRIPTION	REV C TOTAL	VARIANCE
1002	LABOR	$807,912	($96,135)
1003	MATERIALS	$24,057	$2,203
1004	ODCs	$4,220	$315
1005	TRAVEL	$2,941	$1,654
TOTAL		**$839,129**	**($91,963)**

SUMMARY VARIANCE CLIN 1002

CLIN No.	Labor Category	Total Rev B Hours	Total Rev C Hours	Variance
CLIN 1002	Program Manager	845	938	93
CLIN 1002	SME1	2119	2341	222
CLIN 1002	SME2	1449	1434	-15
CLIN 1002	FLN 3	540	604	64
CLIN 1002	Research and Data Analyst	906	1643	737

REV B LABOR COSTS

CLIN No.	Labor Category	Old Rate	Total Hours	Total Billable Amount $	New Rate (as of 5/17/16)	Total Hours	Total Billable Amount $	Total Combined Hours	Combined Labor Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	188.5	(b)(4); (b)(6)		656.5	(b)(4); (b)(6)	845	(b)(4); (b)(6)
CLIN 1002	SME1		445			1,674		2119	
CLIN 1002	SME2		353			1,096		1449	
CLIN 1002	FLN 3		0	$0.00	(b)(4)	540		540	
CLIN 1002	Research and Data Analyst		78	(b)(4); (b)(6)	(b)(6)	828		906	
						TOTAL			

REV C LABOR COSTS

CLIN No.	Labor Category	Old Rate	Total Hours	Total Billable Amount $	New Rate (as of 5/17/16)	Total Hours	Total Billable Amount $	Total Combined Hours	Combined Labor Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	188.00	(b)(4); (b)(6)		750	(b)(4); (b)(6)	938	(b)(4); (b)(6)
CLIN 1002	SME1		442.00			1,902		2344	
CLIN 1002	SME2		353.00		(b)(4); (b)(6)	1,081		1434	
CLIN 1002	FLN 3		0.00	$0.00		604		604	
CLIN 1002	Research and Data Analyst		78.00	(b)(4); (b)(6)		1,565		1,643.00	
						TOTAL			

SUMMARY OF LABOR HOURS BY PERSONNEL

CLIN	CATEGORY	NAME	OLD RATES	NEW RATES	Through 15 May		15 May - 15 Nov		TOTAL HOURS	TOTAL COSTS
					HOURS	COST	HOURS	COST		
PROGRAM MANAGER					**188.00**	$	**750.00**	(b)(4); (b)(6)	**938.00**	(b)(4); (b)(6)
1002	Program Manager	(b)(6)		(b)(4); (b)(6)	98.50		426.5		525.00	
1002	Program Manager				89.50		323.5		413.00	
SUBJECT MATTER EXPERT 1					**442.00**		**1902.0**		**2344.00**	
1002	Subject Matter Expert 1				45.00		284.0		329.00	
1002	Subject Matter Expert 1				223.00		556.0		779.00	
1002	Subject Matter Expert 1				83.00		130.0		213.00	
1002	Subject Matter Expert 1				45.00		450.0		495.00	
1002	Subject Matter Expert 1				46.00		482.0		528.00	
SUBJECT MATTER EXPERT 2					**353.00**		**1081.0**		**1434.00**	
1002	Subject Matter Expert 2				194.00		392.5		586.50	
1002	Subject Matter Expert 2				117.00		272.0		389.00	
1002	Subject Matter Expert 2				1.00		15.0		16.00	
1002	Subject Matter Expert 2				41.00		401.5		442.50	
RESEARCH AND DATA ANALYST					**78.00**		**1565.0**		**1643.00**	
1002	Research and Data Analyst				0.00	$	69.0		69.00	
1002	Research and Data Analyst				0.00	$	136.0		136.00	
1002	Research and Data Analyst				10.00		579.0		589.00	
1002	Research and Data Analyst				20.00		4.0		24.00	
1002	Research and Data Analyst				0.00	$	200.0		200.00	
1002	Research and Data Analyst				48.00		347.0		395.00	
1002	Research and Data Analyst				0.00	$ -	230.0		230.00	
FOREIGN LOCAL NATIONAL 3					**0.00**	$ -	**604.0**		**604.00**	
1002	Foreign Local National 3 Trainer				0.00	$ -	230.0		230.00	
1002	Foreign Local National 3 Trainer				0.00	$ -	230.0		230.00	
1002	Foreign Local National 3 Coordin				0.00	$ -	144.0		144.00	
								GRAND TOTAL	6,963.00	

LABOR BREAKOUT BY PROJECT PHASE

Activity / Position (Name)	CATEGORY	DESCRIPTION	D1 Feb -	15 May -	Total Hours	Feb- May	May 15 -	TOTAL
1. Proposal Develo					**31.5**			
Program Manager	PM	PM	19.00	0.00	19.0			
Project Coordinato	SME1	SME1	9.50	0.00	9.5			
Subject Matter Exp	SME1	SME1	3.00	0.00	3.0	$		
2. Project Coordinatio					**1743.5**			
In Country Implement	FLN3	FLN3	0.00	326.00	326.0	$		
In-Country Implement	RDA	RDA	0.00	353.00	353.0	$		
In-Country Implement	RDA	RDA	0.00	72.00	72.0	$		
BS&S research analy	RDA	RDA	20.00	4.00	24.0	$		
Program Manager	PM	PM	169.00	318.50	487.5	$		
Project Coordinator	SME1	SME1	218.50	207.50	426.0	$		
3. Training Material Dev/Adapt					**2232.0**			
Epidemiology and BS&S research analysts	RDA	RDA	58.00	321.00	379.0	$		
Epidemiology and BS&S Subject Matter Expe	SME1	SME1	216.00	676.00	892.0	$		
Epidemiology and BS&S Subject Matter Expe	SME2	SME2	353.00	606.00	961.0	$		
4. LMS implemen					**599.5**			
Program Manage	PM	PM	0.00	94.00	94.0	$		
BS&S research an	RDA	RDA	0.00	261.00	261.0	$		
Epidemiology Subj	SME1	SME1	0.00	115.00	115.0	$		
Project Coordinato	SME1	SME1	0.00	129.50	129.5	$		
5. Procurement of t					**553.0**			
Project Coordinator	SME1	SME1	0.00	128.00	128.0	$		
BS&S research analys	RDA	RDA	0.00	47.00	47.0	$		
Program Manager	PM	PM	0.00	170.00	170.0	$		
BS&S Subject Matter	SME2	SME2	0.00	24.00	24.0	$		
In Country Implemen	RDA	RDA	0.00	87.00	87.0	$		
In-Country Implemen	FLN3	FLN3	0.00	97.00	97.0	$		
6. Remote delivery of Epi cou					**181.0**			
Epidemiology research analyst	RDA	RDA	0.00	47.00	47.0	$		
Epidemiology Subject Matter Ex	SME1	SME1	0.00	117.00	117.0	$		
Epidemiology Subject Matter Experts	SME2	SME2	0.00	17.00	17.0	$		
7. Remote delivery of BS&S course - first cohort					**227.0**			
BS&S research analysts	RDA	RDA	0.00	101.00	101.0	$		
BS&S Subject Matter Exp	SME1	SME1	0.00	54.00	54.0	$		
BS&S Subject Matter Exp	SME2	SME2	0.00	72.00	72.0	$		
8. NBEP Gap Analysis & Presentation					**445.0**			
Program Manager	PM	PM	0.00	138.00	138.0	$		
Project Coordinator	SME1	SME1	0.00	29.00	29.0	$		
Epidemiology and BS&S Subject Matter Exper	SME1	SME1	0.00	156.00	156.0	$		
Epidemiology and BS&S Subject Matter Expert	SME2	SME2	0.00	122.00	122.0	$		
9. Remote delivery of Epi course - second cohort					**252.0**			
Epidemiology research analysts	RDA	RDA	0.00	51.00	51.0	$		
Epidemiology Subject Matter E	SME1	SME1	0.00	104.00	104.0	$		
Epidemiology Subject Matter E	SME2	SME2	0.00	97.00	97.0	$		
10. Hands-On-Training delivery					**600.0**			
In-Country Implementers	FLN3	FLN3	0.00	175.00	175.0	$		
In-Country Implementers	RDA	RDA	0.00	75.00	75.0	$		
In Country Implementers	RDA	RDA	0.00	30.00	30.0	$		
Epidemiology and BS&S research analysts (	RDA	RDA	0.00	88.00	88.0			
Epidemiology and BS&S Subject Matter Exper	SME1	SME1	0.00	107.00	107.0	$		
Epidemiology and BS&S Subject Matter Exper	SME2	SME2	0.00	125.00	125.0	$		
11. Project closeou					**95.5**			
Program Manager	PM	PM	0.00	29.50	29.5			
Project Coordinato	SME1	SME1	0.00	2.00	2.0			
Epidemiology and lysts (	RDA	RDA	0.00	10.00	10.0			
Epidemiology and BS&S Subject Matter Exp	SME1	SME1	0.00	14.00	14.0			
Epidemiology and BS&S Subject Matter Exp	SME2	SME2	0.00	16.00	16.0			
In Country Implementers	FLN3	FLN3	0.00	6.00	6.0			
In-Country Implementers	RDA	RDA	0.00	2.00	2.0			
In Country Implementers	RDA	RDA	0.00	16.00	16.0			
TOTALS			**1,061.00**	**5,899.00**	**6,960.00**			

(b)(6)

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(b)(6)

(b)(4); (b)(6)

LABOR BREAKOUT BY PROJECT PHASE PER PERSON PER MONTH

Activity / Position (Name)	CATEGORY	DESCRIPTION	Feb	March	April	May 1-15	May 15-30	June	July	August	September	October	November 1-15	Total Hours	Feb-May 15 Billable Rate	May 15-Nov Billable Rate	TOTAL BUDGET
1. Proposal Development														31.50			
Program Manager (Gallogly)	PM	PM	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$ (b)(4); (b)(6) [redacted]		
Program Manager (Lee)	PM	PM	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.00	$		
Project Coordinator (Varanay)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Subject Matter Expert (Campbell)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3.00	$		
2. Project Coordination														1743.50			
In Country Implementer (Jawad)	FLNS	FLNS		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
In-Country Implementer (Alzadawi)	FLNS	FLNS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
In-Country Implementer (Suha)	FLNS	FLNS		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
In Country Implementer (Lutf)	FDA	FDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
In-Country Implementer (Alshumsi)	SDA	SDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
In Country Implementer (Holmes)	FDA	FDA		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
In-Country Implementer (Lutf)	FDA	FDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S research Analyst (Moffett)	SDA	SDA		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Program Manager (Gallogly)	PM	PM	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Program Manager (Lee)	PM	PM		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Project Coordinator (Varanay)	SME1	SME1		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
3. Training Material Dev/Adapt														2,295.00			
Epidemiology research analyst (Abb)	SDA	SDA		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S research Analyst (Moffett)	FDA	FDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Campbell)	SME1	SME1		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Wilhelm)	SME1	SME1		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Epidemiology Subject Matter Expert (Lam)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Epidemiology Subject Matter Expert (Cox)	SME1	SME1		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Jones)	SME2	SME2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Hodges)	SME2	SME2		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Hodges)	SME2	SME2		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Epidemiology Subject Matter Expert (Hanson)	SME2	SME2		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
4. LMS implementation														[illegible]			
Program Manager (Gallogly)	PM	PM	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Program Manager (Lee)	PM	PM		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S research Analyst (Moffett)	FDA	FDA		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Epidemiology Subject Matter Expert (Lam)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Project Coordinator (Varanay)	SME1	SME1		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
5. Procurement of training materials and supplies														477.00			
Project Coordinator (Varanay)	SME1	SME1		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S research Analyst (Moffett)	FDA	FDA		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	47.00	$		
Program Manager (Lee)	PM	PM	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Program Manager (Gallogly)	PM	PM		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Jones)	SME2	SME2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	24.00	$		
In-Country Implementer (Lutf)	SDA	FDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
In Country Implementer (Holmes)	FDA	FDA		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14.00	$		
In-Country Implementer (Suha)	FLNS	FLNS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
6. Remote delivery of Epi course - first cohort														181.00			
Epidemiology research Analyst (Abb)	SDA	SDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Epidemiology Subject Matter Expert (Lam)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Epidemiology Subject Matter Expert (Cox)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Epidemiology Subject Matter Expert (Hanson)	SME2	SME2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
7. Remote delivery of BS&S course - first cohort														227.00			
BS&S research Analyst (Moffett)	SDA	SDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Campbell)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Wilhelm)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Hodges)	SME2	SME2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Jones)	SME2	SME2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Hodges)	SME2	SME2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
8. NBEP Gap Analysis & Presentation														445.00			
Program Manager (Gallogly)	PM	PM	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Program Manager (Lee)	PM	PM	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Project Coordinator (Varanay)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Campbell)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Epidemiology Subject Matter Expert (Lam)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Wilhelm)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Hodges)	SME2	SME2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Jones)	SME2	SME2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Hodges)	SME2	SME2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
9. Remote delivery of Epi course - second cohort														252.00			
Epidemiology research analyst (Abb)	SDA	SDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Epidemiology Subject Matter Expert (Cox)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Epidemiology Subject Matter Expert (Lam)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Epidemiology Subject Matter Expert (Hanson)	SME2	SME2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
10. Hands-On-Training delivery - first cohort														671.00			
In-Country Implementer (Suha)	FLNS	FLNS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
In Country Implementer (Alzadawi)	FLNS	FLNS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
In-Country Implementer (Jawad)	FLNS	FLNS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	78.00	$		
In-Country Implementer (Alshumsi)	SDA	SDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
In Country Implementer (Lutf)	FDA	FDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
In-Country Implementer (Holmes)	SDA	SDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Epidemiology Research Analyst (Moffett)	FDA	FDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Epidemiology research analyst (Abb)	FDA	FDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	35.00	$		
Epidemiology Subject Matter Expert (Cox)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Epidemiology Subject Matter Expert (Lam)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	32.00	$		
BS&S Subject Matter Expert (Wilhelm)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Campbell)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	7.00	[illegible]	$		
Epidemiology Subject Matter Expert (Hanson)	SME2	SME2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Hodges)	SME2	SME2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Jones)	SME2	SME2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	7.00	[illegible]	$		
BS&S Subject Matter Expert (Hodges)	SME2	SME2		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
11. Project closeout														95.50			
Program Manager (Gallogly)	PM	PM	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	23.00	$		
Program Manager (Lee)	PM	PM		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Project Coordinator (Varanay)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.00	$		
BS&S research Analyst (Moffett)	SDA	SDA		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Epidemiology research analyst (Abb)	FDA	FDA		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Epidemiology Subject Matter Expert (Cox)	SME1	SME1		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Epidemiology Subject Matter Expert (Lam)	SME1	SME1		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Wilhelm)	SME1	SME1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Campbell)	SME1	SME1		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
Epidemiology Subject Matter Expert (Hanson)	SME2	SME2		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Hodges)	SME2	SME2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Jones)	SME2	SME2		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
BS&S Subject Matter Expert (Hodges)	SME2	SME2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
In-Country Implementer (Suha)	FLNS	FLNS		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
In Country Implementer (Alzadawi)	FLNS	FLNS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
In-Country Implementer (Jawad)	FLNS	FLNS		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
In-Country Implementer (Alshumsi)	SDA	SDA		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
In-Country Implementer (Lutf)	FDA	FDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
In-Country Implementer (Holmes)	SDA	SDA		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$		
TOTALS			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			

REV B MATERIALS COST				
CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	epidemiology textbooks	$ 250	30	$ 7,500
1003	risk management texts and other published	$ 550	15	$ 8,250
1003	USB internet devices	$ 34	20	$ 672
1003	Prepaid internet access cards (6GB of data over 3 months)	$ 46	20	$ 924
1003	general office supplies	$ 100	1	$ 100
1003	PPE (Tyvek suits, gloves, goggles, disinfectants, N95 respiralors, booties, e	$ 500	15	$ 7,500

Sub-Total 24,946

(b)(4); (b)(6)

(b)(4); (b)(6)

Fully Loaded Amnt

REV C MATERIALS COST				
CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	epidemiology textbooks	$ 1,424	1	$ 1,424
1003	risk management texts and other published materials for BS&S	$ 3,399	1	$ 3,399
1003	USB internet devices	$ 70	1	$ 70
1003	Prepaid internet access cards (6GB of data over 3 months)	$ -	0	$ -
1003	general office supplies	$ 2,616	1	$ 2,616
1003	LMS Training for Project Personnel - Trainers	$ 1,500	1	$ 1,500
1003	HOT Materials (PPE, BS&S training supplies, consumables, etc.) - Iraq	$ 10,880	1	$ 10,880
1003	HOT Materials (PPE, BS&S training supplies, consumables, etc.) - US	$ 2,964	1	$ 2,964

Sub-Total 22,853

(b)(4); (b)(6)

(b)(4); (b)(6)

Fully Loaded Amnt:

REV B COSTS				
CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance	$ 3,472.89	1	3,473
1004				-
1004				-
1004				-
1004				-
			Sub-Total	3,473

(b)(4); (b)(6)

Amnt:

(b)(4); (b)(6)

REV C COSTS				
CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance	$ 3,231.52	1	3,232
1004				-
1004				-
1004				-
1004				-
			Sub-Total	3,232

(b)(4); (b)(6)

Fully Loaded Amnt:

(b)(4); (b)(6)

REV B TRAVEL COSTS - TRAVEL TO A

	Domestic		
Traveler:	2 people (b)(6)		
Travel Dates:	September 7 - September 9, 2016		
Training Event Dates:	07/07/16 - 07/09/16 - Present gap analysis report and Q&A at National Biorisk Management Committee (NBMC)		
Departure Location:	DCA		
Destination:	ABQ		
Purpose:	Travel to Albuquerque, NM for report presentation		
Airfare	$		395.50
Service Fee/Airfare	$		43.00
Lodging (2 nights)	$		178.00
Meals / Incidentals (2 travel and 1 full day)	$		127.50
Ground Transport/ to/from DCA airport	$		200.00
Ground Transport to/ from ABQ airport	$		200.00
Daily transportation	$		25.00
# of Full Days		3	
Total Per Person Per Trip	***$***		***1,169.00***
No. of trips		1	
No. of persons		2	
SUBTOTAL:	**$**		**2,338.00**
TOTAL TRAVEL BUDGET:	**$**		**2,338.00**

USG Per Diem Rates		
Location	**Maximum Lodging**	**M&IE**
Albuquerque, NM	**$89.00**	**$51.00**

BUDGET TRACKER

					January		March		May		July		August		September		October		TOTALS	
CODE	CATEGORY	SUBCATEGORY	(Y or BLANK)	Year Budget	Actual Month	Actual Annual Total	Actual Month	Actual Annual Total	Actual Month	Actual Annual Total	Actual Month	Actual Annual Total	Actual Month	Actual Annual Total	Actual Month	Actual Annual Total	Budgeted Month	Budgeted Annual	Total Expenses Previous	Total Expenses Current
1000	Housing	Rent or Mortgage	N	$ 24,000.00	$ 2,000.00	$ 24,000.00	$ 2,000.00	$ 24,000.00	$ 2,000.00	$ 24,000.00	$ 2,000.00	$ 24,000.00	$ 2,000.00	$ 24,000.00	$ 2,000.00	$ 24,000.00	$ 2,000.00	$ 24,000.00	$ 24,000.00	$ 24,000.00
				$ 4,200.00	$ 350.00	$ 4,200.00	$ 350.00	$ 4,200.00	$ 350.00	$ 4,200.00	$ 350.00	$ 4,200.00	$ 350.00	$ 4,200.00	$ 350.00	$ 4,200.00	$ 350.00	$ 4,200.00	$ 4,200.00	$ 4,200.00
	Utilities	Electricity	N	$ 1,800.00	$ 150.00	$ 1,800.00	$ 150.00	$ 1,800.00	$ 150.00	$ 1,800.00	$ 150.00	$ 1,800.00	$ 150.00	$ 1,800.00	$ 150.00	$ 1,800.00	$ 150.00	$ 1,800.00	$ 1,800.00	$ 1,800.00
				$ 1,200.00	$ 100.00	$ 1,200.00	$ 100.00	$ 1,200.00	$ 100.00	$ 1,200.00	$ 100.00	$ 1,200.00	$ 100.00	$ 1,200.00	$ 100.00	$ 1,200.00	$ 100.00	$ 1,200.00	$ 1,200.00	$ 1,200.00
				$ 600.00	$ 50.00	$ 600.00	$ 50.00	$ 600.00	$ 50.00	$ 600.00	$ 50.00	$ 600.00	$ 50.00	$ 600.00	$ 50.00	$ 600.00	$ 50.00	$ 600.00	$ 600.00	$ 600

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$0
1003	MATERIALS	$2,000
1004	ODCs	$0
1005	TRAVEL	$0
TOTAL		**$2,000**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	-	$0.00
CLIN 1002	Visiting Scientist		-	$0.00
CLIN 1002	Scientific Mentor		-	$0.00
CLIN 1002	SME1		-	$0.00
CLIN 1002	SME2		-	$0.00
CLIN 1002	SME3		-	$0.00
CLIN 1002	Resaerch Collaborator		-	$0.00
CLIN 1002	Trainer 1		-	$0.00
CLIN 1002	Trainer 2		-	$0.00
CLIN 1002	Trainer 3		-	$0.00
CLIN 1002	Grants Manager		-	$0.00
CLIN 1002	Research and Data Analyst		-	$0.00
			TOTAL	$0.00

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET	Full Time Employee	IC Support by Activity

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	Voice Over & Narrative	$250.00	4	$ 1,000.00
1003	Closed Captio	$900.00	1	$ 900.00
				$ -
				$ -
				$ -
				$ -
			Sub-Total	1,900

(b)(4); (b)(6)

Fully Loaded Amnt:	

(b)(4); (b)(6)

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance			-
1004				-
1004				-
1004				-
1004				-
			Sub-Total	-
			(b)(4); (b)(6)	-
			Fully Loaded Amnt:	-

Traveler:		
Departure Location:		
Destination:		
Purpose:		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 6 full days)	$	-
Ground Transport/US	$	-
Ground Transport/Entebbe-TBD-Entebbe	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

Traveler:		
Departure Location:		
Destination:		
Purpose		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 13 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 12 full days)	$	-
Ground Transport US	$	-
Ground Transport/Entebbe-TBD-Entebbe	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

Traveler:		
Departure Location:		
Destination:		
Purpose:		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 6 full days)	$	-
Ground Transport/US	$	-
Ground Transport/Entebbe-TBD-Entebbe	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

Traveler:		
Departure Location:		
Destination:		
Purpose		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 13 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 12 full days)	$	-
Ground Transport/Freetown	$	-
Ground Transport/Entebbe-TBD-Entebbe (included into TM MB)	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

Traveler:		
Departure Location:		
Destination:		
Purpose:		
Airfare	$	-
Service Fee/Airfare	$	-
Lodging/ 1 night @ Entebbe	$	-
Lodging / 7 nights @ TBD	$	-
Meals / Incidentals (2 travel days; 6 full days)	$	-
Ground Transport/Freetown	$	-
Ground Transport/Entebbe-TBD-Entebbe	$	-
Registration Fee	$	-
Insurances (DBA, SOS)	$	-
Vaccinations/Malarone	$	-
Other (comm costs, Internet etc)	$	-
Visa	$	-
# of Days		0
Total Per Trip	$	-
No. of trips		0
No. of persons		0
SUBTOTAL:	**$**	**-**

TOTAL TRAVEL BUDGET:	**$0**

USG Foreign Per Diem Rates (http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1239)

Location	Maximum Lodging	M&IE	Total
Wakiso/Hoima	62	48	110

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$38,933
1003	MATERIALS	$10,695
1004	ODCs	$0
1005	TRAVEL	$2,993
TOTAL		**$52,620.93**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	80	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist		-	$0.00
CLIN 1002	Scientific Mentor		-	$0.00
CLIN 1002	SME1		60	(b)(4); (b)(6)
CLIN 1002	SME2		-	$0.00
CLIN 1002	SME3		80	(b)(4); (b)(6)
CLIN 1002	Resaerch Collaborator		-	$0.00
CLIN 1002	Trainer 1		-	$0.00
CLIN 1002	Trainer 2		-	$0.00
CLIN 1002	Trainer 3		-	$0.00
CLIN 1002	Grants Manager		-	$0.00
CLIN 1002	Research and Data Analyst		-	$0.00
			TOTAL	(b)(4); (b)(6)

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET	Full Time Employee	IC Support by Activity
(b)(6)					(b)(4); (b)(6)			
	FTE	PM	TD Proposal Development	8.0	$			
	FTE	SME 1	TD Proposal Development	8.0	$			
	FTE	PM	General Project Coordination	12.0	$			
	FTE	SME 1	General Project Coordination	14.0	$			
	FTE	PM	Videography Firm Engagement & Materials Transfer	12.0	$			
	FTE	SME 1	Videography Firm Engagement & Materials Transfer	10.0	$			
	FTE	PM	Narrative Development, Film Production, Film Review & Approval	40.0	$			
	FTE	SME 1	Narrative Development, Film Production, Film Review & Approval	20.0	$			
	FTE	SME 3	Narrative / Content / Storyline Development	80.0	$			
	FTE	PM	General Close Out (including material transfer & close out of agreements)	8.0	$			
	FTE	SME 1	General Close Out (including material transfer & close out of agreements)	8.0	$			

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	External Hard Drive	$80.00	2	$ 160.00
1003	Film Production Se	$10,000.00	1	$ 10,000.00
				$ -
				$ -
				$ -
				$ -
			Sub-Tota	10,160
			(b)(4); (b)(6)	(b)(4); (b)(6)
			Fully Loaded Amnt:	

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance	$ -	-	-
1004				-
1004				-
1004				-
1004				-
			Sub-Total	-
			(b)(4); (b)(6)	-
			Fully Loaded Amnt:	-

Traveler:	Carlyle Gollogly
Departure Location:	Orange County, CA (SNA)
Destination:	Washington, DC (DCA)
Purpose:	CBEP & Team meetings; Video Editing & Narrative Development
Airfare	$ 890.00
Service Fee/Airfare	$ 43.00
Lodging / 6 nights @ DC	$ 1,356.00
Meals / Incidentals (2 travel days; 5 full days)	$ 448.50
Ground Transport/US	$ 255.00
Other (comm costs, Internet etc)	$ -
# of Days	7
Total Per Trip	**$ 2,992.50**
No. of trips	1
No. of persons	1
SUBTOTAL:	**$ 2,992.50**

Traveler:	
Departure Location:	
Destination:	
Purpose:	
Airfare	$ -
Service Fee/Airfare	$ -
Lodging / nights @ TBD	$ -
Meals / Incidentals (2 travel days; full days)	$ -
Ground Transport US	$ -
Other (comm costs, Internet etc)	$ -
# of Days	0
Total Per Trip	**$ -**
No. of trips	0
No. of persons	0
SUBTOTAL:	**$ -**

Traveler:	
Departure Location:	
Destination:	
Purpose:	
Airfare	$ -
Service Fee/Airfare	$ -
Lodging / nights @ TBD	$ -
Meals / Incidentals (2 travel days; full days)	$ -
Ground Transport/US	$ -
Other (comm costs, Internet etc)	$ -
# of Days	0
Total Per Trip	**$ -**
No. of trips	0
No. of persons	0
SUBTOTAL:	**$ -**

Traveler:	
Departure Location:	
Destination:	
Purpose:	
Airfare	$ -
Service Fee/Airfare	$ -
Lodging/ 1 night @	$ -
Lodging / nights @ TBD	$ -
Meals / Incidentals (2 travel days; full days)	$ -
Ground Transport US	$ -
Ground Transport/Incountry	$ -
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ -
Visa	$ -
# of Days	0
Total Per Trip	**$ -**
No. of trips	0
No. of persons	0
SUBTOTAL:	**$ -**

Traveler:	
Departure Location:	
Destination:	
Purpose:	
Airfare	$ -
Service Fee/Airfare	$ -
Lodging/ 1 night @	$ -
Lodging / nights @ TBD	$ -
Meals / Incidentals (2 travel days; full days)	$ -
Ground Transport/US	$ -
Ground Transport/Incountry	$ -
Registration Fee	$ -
Insurances (DBA, SOS)	$ -
Vaccinations/Malarone	$ -
Other (comm costs, Internet etc)	$ -
Visa	$ -
# of Days	0
Total Per Trip	**$ -**
No. of trips	0
No. of persons	0
SUBTOTAL:	**$ -**

TOTAL TRAVEL BUDGET:	**$2,993**

USG Foreign Per Diem Rates (http://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1239)

Location	Maximum Lodging	M&IE	Total
Washington, DC	226	69	295

CLIN	DESCRIPTION	TOTAL
1002	LABOR	$73,375.56
1003	MATERIALS	$1,579.05
1004	ODCs	$647.16
1005	TRAVEL	$13,639.00
TOTAL		**$89,240.77**

CLIN No.	Labor Category	Rate	Total Hours	Total Billable Amount $
CLIN 1002	Program Manager	(b)(4); (b)(6)	110.0	(b)(4); (b)(6)
CLIN 1002	Visiting Scientist		-	$0.00
CLIN 1002	Scientific Mentor		-	$0.00
CLIN 1002	SME1		384.0	(b)(4); (b)(6)
CLIN 1002	SME2		-	$0.00
CLIN 1002	SME3		-	$0.00
CLIN 1002	Resaerch Collaborator		-	$0.00
CLIN 1002	Trainer 1		-	$0.00
CLIN 1002	Trainer 2		-	$0.00
CLIN 1002	Trainer 3		-	$0.00
CLIN 1002	Grants Manager		-	$0.00
CLIN 1002	Research and Data Analyst		124.0	(b)(4); (b)(6)
			TOTAL	

NAME	TYPE	CATEGORY	DESCRIPTION	Total Hours	BILLABLE RATE	TOTAL BUDGET
(b)(6)	PM	Program Manager	Program Manager	8.0	$	(b)(4); (b)(6)
	RDA	Research and Data Analyst	Program Coordinator	8.0	$	
	PM	Program Manager	Program Manager	30.0	$	
(b)(6)	RDA	Research and Data Analyst	Program Coordinator	60.0	$	
SME1 TBD	SME1	Subject Matter Expert 1	Grantsmanship SME 1	46.0	$	
SME1 TBD	SME1	Subject Matter Expert 1	Grantsmanship SME 2	46.0	$	
	PM	Program Manager	Program Manager	20.0	$	
(b)(6)	RDA	Research and Data Analyst	Program Coordinator	4.0	$	
SME1 TBD	SME1	Subject Matter Expert 1	Grantsmanship SME 1	56.0	$	
SME1 TBD	SME1	Subject Matter Expert 1	Grantsmanship SME 2	56.0	$	
	PM	Program Manager	Program Manager	40.0	$	
(b)(6)	RDA	Research and Data Analyst	Program Coordinator	40.0	$	
SME1 TBD	SME1	Subject Matter Expert 1	Grantsmanship SME 1	70.0	$	
SME1 TBD	SME1	Subject Matter Expert 1	Grantsmanship SME 2	70.0	$	
	PM	Program Manager	Program Manager	12.0	$	
(b)(6)	RDA	Research and Data Analyst	Program Coordinator	12.0	$	
SME1 TBD	SME1	Subject Matter Expert 1	Grantsmanship SME 1	20.0	$	
SME1 TBD	SME1	Subject Matter Expert 1	Grantsmanship SME 2	20.0	$	
	PM	Program Manager	Program Manager	110.0	$	
(b)(6)	RDA	Research and Data Analyst	Program Coordinator	124.0	$	
SME1 TBD	SME1	Subject Matter Expert 1	Grantsmanship SME 1	192.0	$	
SME1 TBD	SME1	Subject Matter Expert 1	Grantsmanship SME 2	192.0	$	
Totals:				**618.0**		

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1003	Scientific Articles for Research Support	$1,300.00	1	$ 1,300.00
1003	In Country Communications Support for Project SMEs	$200.00	1	$ 200.00
				$ -
				$ -
				$ -
				$ -
			Sub-Total	1,500
			SME Fully Loaded Amt:	(b)(4); (b)(6)

CLIN No.	Item	Cost	Number of Req.	Total Billable Amount $
1004	DBA Insurance	$ 495.61	1	495.61
			Sub-Total	495.61
			(b)(4); (b)(6)	(b)(4); (b)(6)
			Fully Loaded Amnt.	

PROJECTED TRAVEL COSTS - TD-025

	Foreign
Traveler:	2 SMEs
Travel Dates:	Depart IAD 7/29/2016, arrive to ADD on Sat; depart ADD 8/6/2016; arrive IAD Sun 8/7/2016.
Training Event Dates:	08/01/2016-08/05/2016
Departure Location:	Washington, DC, USA
Destination:	Addis Ababa, Ethiopia
Purpose:	Travel to Addis Ababa to execute Writing WS and post-WS survey

Airfare	$	2,200.00
Service Fee/Airfare	$	43.00
Lodging (7 nights)	$	2,205.00
Meals / Incidentals (2 travel and 8 full days)	$	807.50
Ground Transport/ from US airport	$	300.00
Ground Transport / to ADD airport	$	10.00
Daily Iransport / 8 days x 1 car	$	720.00
Other - fuel (app 10Gallons)	$	50.00
Vaccinations/Malarone	$	250.00
Other - roaming activation	$	120.00
Visa (Regular processing/single entry for 30d in-country)	$	114.00
# of Full Days	8	
Total Per Person Per Trip	***$***	***6,819.50***
No. of trips	1	
No. of persons	2	
SUBTOTAL:	**$**	**13,639.00**

USG Foreign Per Diem Rates (See References Tab for Details)			
Location	**Maximum Lodging**	**M&IE**	**Total**
Addis Ababa	**$315.00**	**$85.00**	**$400.00**
Other	**$96.00**	**$61.00**	**$157.00**

Comments:	
	Assumption #1: Listed Travelers wil share one vehicle throughout workshop implementation
	Assumption #2: Workshop implementation will take place with Addis Ababa and estimates are based on USG rates for Addis Ababa
	Assumption #4: Car hire is provided without fuel; fuel to be procured on the ground by MB team
	Assumption #5: Assumed that team will require approximately 40 liters of fuel during workshop implementation.